Explorations on the Makran Coast, Pakistan

A Search for Paradise



George F. Dales

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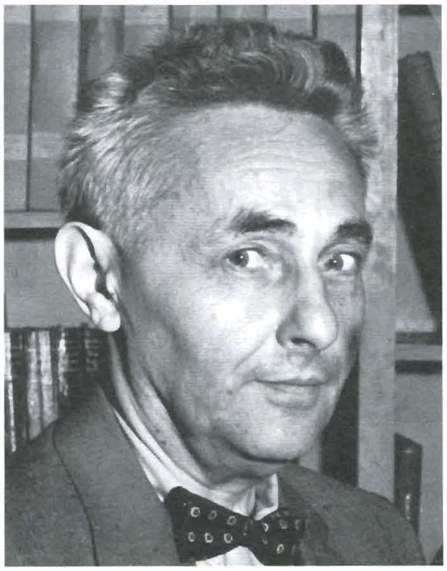
Carl P. Lipo

No. 50

Contributions of the Archaeological Research Facility University of California at Berkeley

EXPLORATIONS ON THE MAKRAN COAST, PAKISTAN

Number 50
Contributions of the University of California
Archaeological Research Facility



G. Dales

Dedicated to the Memory of

Professor Samuel Noah Kramer

Whose dream of finding the Paradise Land
led to our Makran survey.

Explorations on the Makran Coast, Pakistan

A Search for Paradise

George F. Dales

and

Carl P. Lipo

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Contributions of the University of California
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In Memoriam

George F. Dales

It has been an honor and a privilege to work with George Dales on completion of this book. Throughout the long process of writing and organization, I was deeply inspired by George's profound knowledge, wisdom, passion for life, and dedication for work. Despite immense obstacles, George was determined to see this book completed. And here it is.

The fact that this book is about George and Barbara's first expedition which took place over thirty years ago is quite appropriate. It completes the circle of a journey which George started as a student of Near Eastern archaeology at the University of Pennsylvania. When his principal professor, Samuel Kramer, instructed the young graduate student to "Go East young man!" and locate Dilmun, George's search for Paradise began. It started in the barren wastes of the Makran coast and took him throughout Afghanistan, India, and Pakistan and into the academic worlds of Philadelphia, Toronto, and Berkeley. George's quest for Paradise fueled scores of research projects, launched dozens of expeditions, resulted in several doctorates, and was the subject of countless articles and books.

Despite a lifetime of prolific research in pursuit of Dilmun, Paradise remained lost—only to be found relatively recently across the Persian Gulf by another group of researchers. Considering his accomplishments and the extent of his investigations, it is clear that George's failure to locate Dilmun is as significant as its actual location. The purpose of George's search was really the journey itself. During his travels, areas of the map previously left blank were filled in with information, a tradition of scholarship and research was created in the field of South Asian archaeology, and scholars from around the world and from widely disparate disciplines were brought together to investigate the Indus Valley civilization. Their ongoing discoveries are tributes to George Dales and his search for Paradise.

—Carl P. Lipo

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Butter tea and wind pictures, the Crystal Mountain and blue sheep dancing on the snow—it's quite enough!
Have you seen the snow leopard?
No! Isn't that wonderful?

—Peter Matthiessen
The Snow Leopard

Thou showest me the road to Makran,
but what a difference there is between
an order and its execution?
I will never enter this country,
as its name alone terrifies me.

The Lament of Sinan ibn Selama,
quoted in Percy Sykes's
Ten Thousand Miles in Persia

♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦

The fact is that Makran is a country about which a man may write much as he pleases and never stray far from the truth. The physical aspect of the land varies so greatly from many points of view, that one ceases to wonder at the equally extraordinary variety of its historical records.

Sir T. H. Holdich
The Indian Borderland, 1880-1900
1909 (p. 320)

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PREFACE

AND

ACKNOWLEGDEMENTS

This is an account of explorations along the Makran coast of Pakistan (figures 1 and 2) for evidence of trade and cultural connections between the Indus/Harappan civilization and the Near East. The Indus Valley of Pakistan was the seat of one of the Old World's earliest urban cultures (cir. 2500-1800 B.C.) (Marshall 1931; Mackay 1938; Vats 1940; Wheeler 1968), the same period during which the Sumerian and Akkadian cultures were thriving in southern Mesopotamia and the Persian Gulf region. We were searching for archaeological evidence relating to the question of trade and other contacts between these two major seats of early civilization.

The form of the first part of this report is unconventional. Expanded diary entries are used to describe the actual survey. They begin after a brief account of our daily efforts in Karachi to obtain the exploration license. I selected this form to best convey a sense of the opportunities and limitations that are encountered in that remote region. In retrospect, our camel and fishing-boat modes of transportation seem needlessly primitive, but at the time, given extremely limited resources and information, it was the only way to go. It was a unique experience, the excitement of which I hope comes through in the first half of this report.

The second part of the report is more conventional and presents the results of the excavations at the Harappan site of Sutkagen Dor and the surface collections of Harappan sherds at Sotka Koh.

ACKNOWLEDGEMENTS

Financial support for the expedition was provided by Mrs. W. E. Seeley of Cleveland, Ohio (my mother) and by the Board of Trustees of the University Museum, Philadelphia. Dr. Froelich Rainey, Director of the University Museum; Dr. Alfred Kidder III, the Associate Director; and Dr. Robert H. Dyson, Assistant Curator of the Near Eastern Section of the Museum (and currently its Director), were instrumental in the decision of the University Museum to participate in such a venture. Another graduate student at the University of Pennsylvania, T. Cuyler Young, Jr.—who had archaeological field experience at Hasanlu, Iran—was invited to be Assistant Field Director. My wife, Barbara, joined the team as Field Assistant and Secretary. The coolheadedness and good humor of Cuyler and Barbara, often

under exceedingly trying and exhausting circumstances, were indispensable elements in the success of the expedition.

Medical advice and supplies were provided by Dr. C. E. Mulligan of Cleveland, Ohio. Many of the supplies were contributed through the generosity of Squibb and Sons, Wyeth Labs., Schering Corporation, and Eli Lilly Corporation.

In Pakistan, our initial inexperience was partly overcome by the friendly cooperation and assistance we received from the staff of the American Embassy in Karachi and the U.S. Operations Mission, International Cooperation Administration (ICA); especially, Dr. Robert W. Caldwell, Labor Attache and liaison between the expedition and the government of Pakistan; Hallock R. Lucius, Embassy Staff Aid who took over Caldwell's liaison duties after Caldwell's transfer out of Pakistan; Ed Kemp, Head of the Consular Section; Hal Vaughn of U.S. Information Service (USIS); and Dr. Fredrick Bunting, Deputy Director, U.S. Operations Mission, ICA, and his wife, Ethel-Jane, who became the "Guardian Angel" of the expedition.

Special thanks go also to Dr. Sherman A. Minton, Jr. (School of Medicine of Indiana University who was working at the Institute of Basic Medical Sciences, Karachi) and his wife, Madge, for their generous contributions of friendship and sage advice; to John A. Reinemund, American Advisor to the Geological Survey of Pakistan; to Scotty Mitchell and John Mohar, manager and geologist respectively of the Tidewater Oil Company, Karachi; and to Robert "Bobbie" L. Raikes, hydrologist-cum-archaeologist, and his wife, Janet, who became life-long friends and confidants.

The project could not have happened without the approval and cooperation of the Department of Archaeology, government of Pakistan and its Director-General, Dr. F. A. Khan. Dr. Khan's personal interest in the project was instrumental in our obtaining the license for the explorations. The administrative details were efficiently and cheerfully handled by Muhammad Siddique, Assistant Director of Archaeology. Many officials in the Pakistan government assisted in various aspects of the project. I want especially to thank S. M. Sharif, Secretary of the Ministry of Education; S. M. Ali, Ministry of Education, Karachi; Mhd. Ibrahim, Section Officer, Foreign Office, Karachi; Aga Ghulam Hussain, Deputy Director, Central Fisheries, Karachi; Dr. Habibur Rahman, Geological Survey of Pakistan; Dr. S. A. Naqvi, Director of the National Museum, Karachi; Dr. Mohamad Ismail Siddiqi, Department of Geography, University of Karachi; and Capt. (Dr.) Ikramma Rohman, Head of the Department of Geography, Urdu College, Karachi.

While in the field, we were aided by many Pakistani government officials and private citizens without whose help and cooperation many of our practical problems concerning travel, subsistence, and security would have been more difficult. Special appreciation goes to: Major Montaz, Head of Customs, Kalat Division; Nazir Ahmad, Deputy Superintendent of Customs, Kalat Division; Jahangir, Commander of the Makran Militia, Sunstar; the Tahsildars of Jiwani, Gwadar, Pasni, and Ormara—especially Abu Bakr the Tahsildar of Jiwani whose cooperation made our work at Sutkagen Dor and Jiwani possible; Safdar Manzoor, Burmah Shell Aviation Service Representative, Jiwani, who graciously invited us to share his house; the Customs and Fisheries personnel at Jiwani, Gwadar, Pasni, and Ormara who so generously helped us by providing rest-house facilities and local transportation. And an extra word of appreciation is due to Mir Ahmad Khan Kalmati, head of the Kalmati tribe, Pasni, who personally accompanied us on our survey of the Pasni area and led us to the previously unknown Harappan site of Sotka Koh, located on his property north of Pasni.

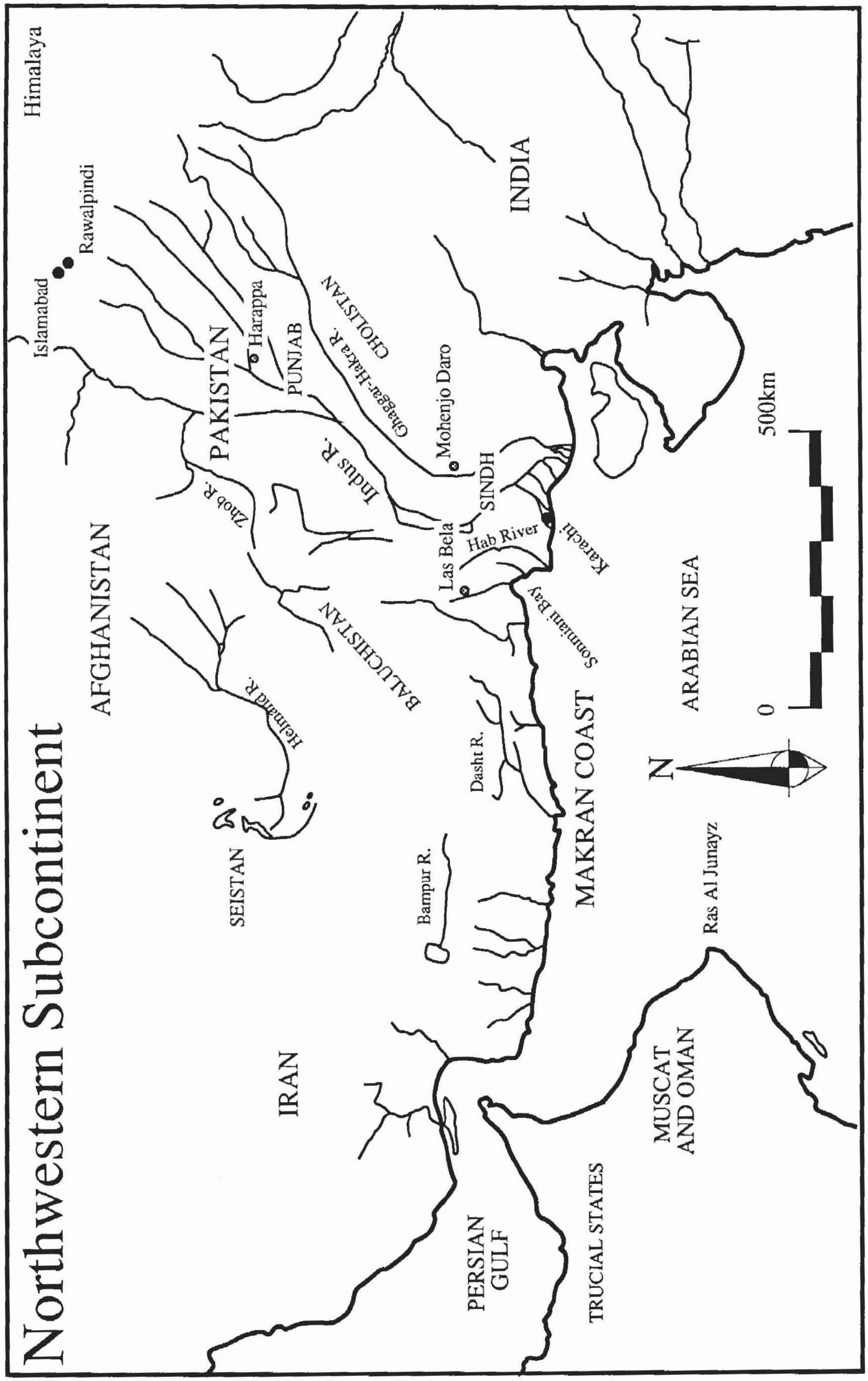


Figure 1 **Map of South Asia**

Adequate words are hard to find to express our appreciation for the assistance and support of Muhammad Rafique Mughal, our representative from the Department of Archaeology. A relationship of trust and friendship that started in Makran has persisted to this day. We are proud to have been associated all these years with one of Pakistan's finest archaeologists.

In the final stages of completing the manuscript, several persons have been of inestimable assistance: Theodore Chenoweth and Patrick Kirch read early drafts of the text and offered substantial suggestions concerning style and organization; Dawn Morton prepared the final drawings of the pottery; Gregory Possehl arranged for the loan to Berkeley of the Sutkagen Dor sherds in the University Museum collections and also for the making of new prints of some of the expedition's black-and-white photographs.

I want to extend special appreciation to Carl Lipo. Carl generated the maps and plans on a Mac II and a Laserwriter printer at Berkeley's Department of South and Southeast Asian Studies (using the program CANVAS 2.1 by Deneba Software, Inc.). He contributed valuable suggestions concerning the Sutkagen Dor excavation plans and sections, worked with me on the descriptions and classification of the pottery, and assisted in the numerous tasks required to finalize the manuscript for the editor. His constant help and encouragement certainly qualify him to be recognized as coauthor of the volume.

I want to thank University of California at Berkeley's Archaeological Research Facility (ARF), especially Kent Lightfoot (Director) and Anne Sauter (Administrative Assistant), for accepting the manuscript and Tanya Smith (Editor) for seeing it through production. Appreciation is due Charles Whitehill, student volunteer at ARF who made many of the black-and-white prints in this report. In addition, I want to acknowledge the help extended by Berkeley graduate students Chris Kostman and Mary Anne Pouls in selecting and organizing the illustrations.

Finally, I want to thank my wife, Barbara, for the various observations and anecdotes she has contributed to the text on matters that had long since slipped my memory. No words can express adequately my appreciation for the patience and understanding she has showered on me during difficult times in preparing the report.

December 1991

Editor's note: The photos in this volume were taken by George Dales and Cuyler Young.

INTRODUCTION

The Makran coast has featured in the archaeological and historical records from at least as early as the third millennium B.C. (figures 1 and 2). It was the question of the extent and nature of commercial and cultural contacts between the ancient Indus/Harappan civilization and the Mesopotamian/Persian Gulf region that was the primary focus of our 1960 survey and is the subject of this report.

The possibility of finding significant archaeological remains from the later historical periods, however, was also among the interests of the expedition. For example, there was the return of Alexander the Great's forces from India. He and his army survived—at considerable human cost—the march through inland Makran (Gedrosia) and his admiral, Nearchus, guided Alexander's navy along the perilous Makran coast (the land of the Ichthyophagoi, "fish eaters").

References to the Makran coast also occur in Hellenistic military accounts and in Roman geographical and travel accounts. From the eighth century, there has been a dominant Muslim presence along the coast but one interrupted frequently by the invasions or temporary incursions of outsiders. The Portuguese, for example, maintained fortified establishments along the coast throughout most of the sixteenth century until they were expelled in 1594 by the Mughal Emperor Akbar (Baluchistan Gazetteer, 46).

The entire nineteenth century saw Makran as a vital crossroads in what came to be called the Great Game—the conspiratorial and deadly efforts of the British to ward off European threats to its Indian empire, first from the French and then the Russians. From the first decade of the nineteenth century, dozens of British military/political officers were dispatched to Baluchistan and Afghanistan "to ascertain the nature and resources of those countries through which an invading European army might advance toward Hindoostan" (Pottinger 1816:3). Their published accounts are a treasure house of information: geographical, historical, demographic, linguistic, and archaeological (many of them summarized conveniently in the Baluchistan District Gazetteer Series but see specifically Bellew 1874; 1876; Goldsmid 1863, 1874, 1876; Holdich 1909, 1910; Hughes 1878; MacGregor 1882; Vredenberg 1909).

The earliest detailed British account is that of Henry Pottinger.[1] He states (1816:2) that by 1807 "the long professed hostile schemes of Buonaparte (had become) so conspicuously active and decided with regard to British India" that decisive action was called for. In 1810, the British Indian government sent the military/political officers Pottinger, Christie, and Grant west from Bombay to secure information to help counteract the suspected French incursions. The Makran coast was the starting place for their remarkable reconnaissances that extended throughout Baluchistan, eastern Persia, and southern Afghanistan.

Pottinger took a dim view of Makran and its people. The only trade he observed was the export of part of the annual date crop to Bombay, and that trade was controlled by Hindus. As for the general population, he commented that:

> . . . all the Mukranees whom I saw, were a puny and delicate race of men, when compared to the Belooches, or Brahooes, and diseases are prevalent among them; these, however, may be owing to the climate, and their sensual lives, for which both sexes are notorious; they likewise drink great quantities of an intoxicating beverage, made from fermented dates, which must be exceedingly pernicious in its effects. The women of Mukran are, usually, very ugly, and proverbially unfaithful, they set no bounds to the gratification of their passions, and in consequence, at an early period of their lives, they are tottering under decrepitude and premature old age. The men do not seem to be remarkable for longevity. They pay so little regard to the infidelity of their wives, that a sheep or two is always looked upon, in cases of discovery, to be an ample offering to appease the husband's wrath (Pottinger 1816:306-307).

Pottinger, like many nineteenth century British officers, was a polymath who provided descriptions of archaeological sites, especially in Afghanistan, in addition to his more official duties. But it was Major E. Mockler, political officer stationed at Gwadar in the 1870s,[2] who published the first account of archaeological explorations and excavations in Makran (1877). He explored much of the region around Gwadar, but most importantly he discovered the site of Sutkagen Dor and conducted some excavations there. He, of course, had no inkling of the age or cultural affinity of the site; the Indus civilization had not yet been discovered. But he did publish an intriguing account of his work there including two excellent ink drawings of the citadel (figure 4); an account that drew Sir Aurel Stein to reinvestigate the site half a century later.

Shortly after Mockler's excavations at Sutkagen Dor, another British officer-cum-explorer mentions having seen the site. Captain R. B. Lockwood and C. M. MacGregor had been sent out from England in 1876-77 to explore the border regions from Makran to Seistan (Afghan-Persian-Baluchistan border). Lockwood's route (in MacGregor 1882:79) was from Jiwani north up the Dasht Valley. He mentions passing "Sut-ki-Gaidar, where there were some partially excavated brick ruins."

Aurel Stein, one of history's most intrepid and gifted explorers (Mirsky 1977), conducted an archaeological survey in 1927-28 of southern Baluchistan and Makran (1931). That was the period when the first detailed reports on the discoveries at Mohenjo Daro and Harappa were appearing. Stein was aware of the discovery of the Indus civilization, but he had not actually seen the archaeological evidence and hence made no specific references in his report to connections between the Indus and Makran.

He explored extensively in the regions of Jiwani and Gwadar, following references made by Mockler to stone circles at Jiwani, and recorded, among other monuments, numerous finds of ancient burial circles. But most important, for Harappan studies, was his work at Sutkagen Dor (for no explained reason he spelled the site name Suktagen-dor). His topographic plan of the site, and the publication of pottery and artifacts, made it abundantly clear that Sutkagen Dor was a major outpost of the Indus civilization. It was his report that provided the major spark for our own interest in visiting Makran.

The next pertinent visitor to Makran was Henry Field who, in 1955, conducted a combined anthropological, zoological, and archaeological reconnaissance

of southern Baluchistan and Bahawalpur (1959). From Karachi he took a ship to Pasni and then motored up the Shadi Kaur Valley to Turbat in the Kej Valley of central Makran. His report, reminiscent of the style of the Baluchistan Gazetteers, provides valuable geographical, ethnographic, zoological, botanical, historical, and archaeological information. But, as intense an observer as he was, he drove unknowingly within a mile of the Harappan site of Sotka Koh, north of Pasni, that we "discovered" in 1960.

Unbeknownst to us at the time, a young American geographer, Rodman Snead, was studying the physical geography of the Makran coast (Snead 1964, 1967, 1969, 1981). His initial field reconnaissance of the coast in 1957[3] and his 1959-60 studies in Sonmiani Bay and Las Bela were sponsored, in part, by the Geography Branch, Office of Naval Research, Washington. The reader will be aware of the significance of his research by the many references to it contained within this report.

Subsequently, the firm of Woodward-Clyde Consultants, International, conducted surveys of the coastal regions from Bandar Abbas in Iran to the Makran coast of Pakistan for the Atomic Energy Organization of Iran. Their report (1975) provided valuable new information on the geomorphology of the Pakistan coast, especially relating to the causes and extent of uplift.

Currently, an extensive and intensive exploration of Makran and the Kej Valley is being conducted by Roland Besenval of C.N.R.S./Paris as part of the Italian Ecological and Archaeological Mission in Makran. His first preliminary report, presented as a paper at the South Asian Archaeology Conference in Paris (Besenval 1989), described the exciting, and unexpected, discovery of a substantial Harappan occupation at the site of Miri Qalat, near Turbat, some seventy-five miles up the Dasht Valley from Sutkagen Dor. This is the first major discovery of a Harappan presence in Makran apart from the sites of Sutkagen Dor and Sotka Koh, and it is forcing a reevaluation of the function of the coastal sites (Besenval and Sanlaville 1990). A second preliminary report on the 1990 excavations at Miri Qalat was presented at the 1991 South Asian Archaeology Conference in Berlin (Besenval and Marquis 1991). The stratigraphic relationship between Harappan deposits and deposits of earlier and later dates is confirmed in this report.

Of equal, and related importance, are the discoveries being made by European archaeologists in Oman and in the Trucial States on the northern coast of the Arabian peninsula (see below for references).

This takes us back to the basic premise that fostered the specific subject of this report: namely, the search for archaeological evidence relating to the question of economic and/or cultural contacts between the Indus civilization and the Near Eastern Mesopotamian and Persian Gulf cultures. The most compelling, but enigmatic, evidence is found in Mesopotamian cuneiform documents of the Sumerian Ur III, Sargonid, and Old Babylonian periods. Economic, political, and religious documents refer to the importance of three distant places called Magan, Meluhha, and Dilmun. They were crucial to commercial activities involving the procuring of basic raw materials, such as woods and metals, as well as expensive exotic products. The precise geographical location of these regions has eluded scholars for decades and poses a major gap in our understanding of those ancient cultures.

Attempts to resolve the question of their actual geographical locations have produced a voluminous bibliography. Among the most significant are: Asthana 1976; Bibby 1969; Chakrabarti 1990; Cleuziou 1981; Cleuziou and Tosi 1986, 1988, 1989; Cleuziou, et al. 1979; Cleuziou and Vogt 1985; Dales 1968; De Cardi 1989; During-Caspers 1972, 1978, 1979a, 1979b, 1982; Hojlund 1989; Kramer 1963, 1977, 1986; Larsen

1983; Oppenheim 1954; Parpola 1984; Parpola and Brunswig 1977; Potts 1978, 1982, 1983a, 1983b, 1986a, 1986b; Rao 1979, 1985; Ratnagar 1981; Thapar 1975; Tosi 1979; Weisgerber 1984; Wheeler 1968.

Of the three distant lands, Dilmun is the one that has most tenaciously captured the imaginations of scholars. It was someplace very special to the Mesopotamians apart from its importance for raw materials. Dilmun features in religious texts as being a paradise land, a land of the Immortals, the abode of the hero of the Sumero-Babylonian flood story. Some scholars placed it in the Persian Gulf; others as far away as India.

Archaeological evidence bearing on the problem was sparse in the 1950s when I was a graduate student at the University of Pennsylvania. One of my principal professors, the noted Sumerologist Samuel Noah Kramer, was convinced that Dilmun was the name used by the Mesopotamians for the Harappan civilization in the Indus Valley of Pakistan and western India (Kramer 1963, 1977, 1986). I was urged persuasively to "Go East young man!" in search of fame, fortune, and Paradise.

I found none of them, but the explorations I directed on the Makran coast of Pakistan during October-November 1960 (Dales 1962a and b) started me on a career that has involved Harappan studies for thirty years (Dales 1965a and b, 1974, 1979a and b, 1989, 1990; Dales and Kenoyer 1977, 1986; Dales, Kenoyer, et al. 1991).

The following maps were used during the survey:[4]

QUARTER INCH (1 inch to 4 miles, or 1:253,440): Army Map Service, 1943-46; based on Second Survey of India Edition, 1937.[5]

USAF OPERATIONAL NAVIGATION CHARTS: Scale 1:1,000,000.

USAF AERONAUTICAL APPROACH CHARTS: Scale 1:250,000.

US ARMY CORP OF ENGINEERS STRATEGIC PLANNING MAPS: Scale: 1:500,000.

US NAVY HYDROGRAPHIC OFFICE NAUTICAL CHART H.O.1588 (REVISED 1857).

RECONNAISSANCE GEOLOGY OF PART OF WEST PAKISTAN (Colombo Plan Hunting Survey), Toronto 1960.

NINETEENTH AND EARLY TWENTIETH CENTURY MAPS PUBLISHED BY BRITISH EXPLORERS AND GEOGRAPHERS.

PART I

THE SURVEY

THE 1959 PRELIMINARY VISIT TO PAKISTAN

Before formulating a precise proposal to the government of Pakistan for an exploration license, it was necessary for me to visit Pakistan to see the major ancient sites—especially Mohenjo Daro—and to make the acquaintance of the officials in the government Department of Archaeology.

My initial visit to Pakistan was made during October 1959. During the summer I had been working with the University Museum's excavations at Hasanlu in Iranian Azerbaijan. On October 15, I boarded a propellor-driven Super Constellation for the flight to Karachi. Just over a half hour after leaving Tehran, the number 3 engine caught fire and the flight was aborted. We were treated to a first-class dinner and a fine room for the night in Tehran. At 8:30 the next morning we took off again for Karachi with an estimated flight time of only four hours and twenty minutes.

We had a close view of beautiful snow-capped Mt. Damavand (18,605 feet) as we ascended eastwards from Tehran. Then the scenery changed abruptly when we turned south and crossed over the notorious salt deserts of Central Iran—the Dasht-i-Kavir and the Dasht-i-Lut; both absolutely barren, sandy plains interrupted irregularly by high, jagged rock outcrops. Turning east then into Pakistan, we crossed over the southern Baluchistan mountains; barren and rugged with innumerable traces of seasonal riverbeds and torrent beds—all dry.

As we approached Karachi, we passed over the inhospitable terrain of Sonmiani Bay with its miles of marshes and salt flats. The scenery made me feel unusually apprehensive about our proposed coastal survey. It was one thing to study maps and read travel accounts but to actually get an overview of the topography was a bit of a shock. Little did I realize as I stared wide-eyed at the bare, rocky hills and mountains of upturned red, green, and white rocks, that I would be spending much of the next thirty years exploring and excavating in them.

My travels in the Near East during the previous two years and an earlier year spent in northern China did not prepare me emotionally for South Asia. Twelve years after the turmoil and atrocities resulting from the partition of Pakistan from India, my first impressions of Karachi were that of an urban refugee camp: vast areas of temporary housing, makeshift government offices, wooden crates for desks in many offices, and an extremely low level of poverty that was crushing the people.

My budget was minimal and I sought out an ancient hotel, the Central Hotel, across the street from the "first-class" Metropole Hotel. Even there I could afford only the cheapest room which turned out to be an eight by ten foot "cell" at the end of the alley next to the main building. A naked, fly-specked bulb lit the dirt-streaked, whitewashed walls, the small cot, and single chair. An electric ceiling fan stirred about the flies and mosquitoes. Adjacent to the room was a tiny wash/toilet room equipped with one of those insidious pull-chain British toilets operable only by those whose lineage dates back at least to the time of Queen Victoria. But, a room

with three meals per day for the equivalent of $3.78 a day was nothing to complain about. I had only $35.00 left in my pockets. Fortunately, the $1,000 promised by the University Museum was awaiting me at American Express the next day.

The first night in my hotel room a tall, thin-faced young Pakistani man came to see me. He offered his services as guide and travel consultant. Zaki Dawood proved to be a valued friend who not only assisted me in many practical matters of getting around in a strange new country but who introduced me to many of the post-Partition social problems of Karachi. He took me through the refugee settlements on the eastern side of the city. I was told that after Partition in 1947 and the flood of immigrants coming from India, the U.S. government started supplying aluminum pre-fabricated houses that were supposed to be made available at no charge to the refugees. But, as soon as the pre-fabs arrived, local officials got hold of them and put them up for rent—rent that the refugees could not afford. The racket was detected and the shipments of pre-fabs were stopped. The Pakistan government had to do something immediately so it started erecting cement block "family units" in huge development projects (40,000 units in one project alone). A "family unit" consisted of a walled-in area with dimensions of about 20 by 35 feet. This area contained one room measuring about 8 by 12 feet, calculated to be sufficient as the living, sleeping, and dining space for the average family of six persons. A 3 by 5 foot kitchen with no equipment, a 2 by 3 foot washroom, and a tiny, Turkish-style toilet cubicle were also included. Those units rented for 12 rupees ($2.50) a month and had no gas, electricity, or sewers.

After seeing those refugee communities, my miserable hotel room wasn't so bad after all. But it was not great either. When I awoke in the morning after a fitful sleep in stifling heat, I found myself covered with insect bites—even the palms of my hands and the soles of my feet. But one adapts.

Everything changed quickly for the better as I met more people. I was especially encouraged by my reception at the Department of Archaeology. The director-general, Dr. F. A. Khan, was friendly and cooperative and expressed considerable interest in our proposed coastal survey. He arranged for me to travel to Mohenjo Daro and Harappa, the two principal sites of the Indus civilization, and to meet persons who might have useful information concerning the logistics of planning a coastal survey. Through the department, and also through persons at the American embassy, I developed a list of essential people to contact. Those included the British archaeologist Beatrice de Cardi of London who had done extensive surveying in mainland southern Baluchistan; Henry Field of the Peabody Museum, Harvard, who had conducted an anthropological survey of parts of southern Baluchistan in 1955; Robert L. Raikes, a British hydrologist-cum-archaeologist who had made extensive surveys for water sources and ancient sites in Baluchistan; Walter A. Fairservis, then with the American Museum of Natural History in New York, who was the first American anthropologist/archaeologist to explore Afghanistan and Pakistani Baluchistan after the end of World War II; Rodman Snead, a geographer who had visited the Makran coast in 1957 and again in 1959 to study the unusual mud volcanoes found in the coastal region; Lowell Thomas, Jr. who had flown along the Makran coast in a small, single-engine plane as part of his round-the-world venture; and most importantly of all, Sir Mortimer Wheeler who had been director-general of the Archaeological Survey of India (ASI) just prior to and throughout the initial tumultuous years associated with Partition. He then became archaeological advisor to the newly formed government of Pakistan in 1949-50.

After discussing with Dr. Khan the bureaucratic procedures that had to be taken to obtain an archaeological license, I departed from Karachi with all the naive enthusiasm expected of someone about to embark on his first independent archaeological project. The next months in Philadelphia were spent contacting the persons mentioned above and in working on problems of logistics, supplies, and equipment.

Responses to my requests for information and advice were enthusiastic and encouraging. The most practical information came from Beatrice de Cardi who described in detail the procedures for selecting, hiring, and loading camels. Camels and small boats were the only transportation we could plan on for the survey, the local availability of which it was impossible to assure in advance. Plans and financing were finalized, and the official request for a permit was submitted to the Pakistan government in July 1960. The venture was to be sponsored by the University Museum and subsidized by a generous private contribution. The expedition team consisted of myself as director, T. Cuyler Young, Jr. (then a fellow graduate student at the University of Pennsylvania) as assistant field director, and my wife, Barbara, as secretary and field assistant. We knew that there would be an official representative from the Department of Archaeology assigned to our group and that we would have to hire a cook to accompany us.

A steady flow of letters back and forth between Karachi and Philadelphia kept us assured that our project was being favorably considered, but we found that the actual license would not be issued until we arrived in Pakistan.

THE 1960 SURVEY

After arranging for the care of our two small daughters, Barbara and I left the States on August 19. An eight-hour flight, cramped into an SAS DC-8, took us from Idlewild Airport to Copenhagen where we spent two fine days visiting museums, castles, and places of other delights. Then to Egypt for a week's tour of archaeological sites and time to get acclimated to desert conditions. (Article in Cairo newspaper—500 people have died of cholera: the epidemic has "swept across West Pakistan.")

Thursday, September 1

The KLM Electra departed Cairo at 2:35 P.M. for a three-hour flight to Dhahran, Saudi Arabia, where there was a brief layover in a crumbling, old airport lounge. An ultra modern one was under construction. The flight from there to Karachi took only three and a quarter hours.

Friday, September 2

We arrived in Karachi at 7:30 A.M. From 5:30 A.M. on we had been able to make out the coastline of Iran and Pakistan. It was hazy and cloudy, but we could see enough, even from 20,000 feet, to increase our anxieties about this first of our own field expeditions.

We checked in at the same Central Hotel where I had stayed the previous year, but this time took a proper room on the second floor. The double room with private bath and full pension cost 50 rupees per day (ca. $11.13). Although our room was large, had high ceilings, and was quite cool, the hotel itself was eerie. We

seemed to be the only guests. The entrance hall and main desk occupied the space of a large closet. The manager was a tall, thin, shoulders-back, chin-up stereotype of a Teutonic demigod, complete with saber scar across his cheek. He was unsmiling, but put on at least a facade of graciousness. We could not help but speculate where he had been and what he had been doing in the 1940s.

Certainly hotel managing was not among his past meritorious endeavors. Take for example the dining room. The commodious room, with natural light only from the windows along its northern side, was more like an abandoned stage set for some nostalgic movie. The empty bandstand, the spacious dance floor surrounded by booths on elevated platforms, the strands of faded multicolored crepe paper drooping dustily from the chandeliers; it was as if after some glorious celebration, the boisterous crowds had left in the early morning hours and the doors were locked, not to be reopened until we arrived decades later.

But on to business. First we had to register with the police and then the U.S. embassy which was still located in Karachi; later it moved north to the new capital city of Islamabad. I renewed my acquaintance from the previous year with Robert Caldwell, the labor attache who acted as the unofficial "archaeology representative." He had been an invaluable source of information concerning procedures for obtaining permits and generally getting familiar with the "system" in Pakistan. He introduced me to Hal Lucius who was to replace him the following week when Caldwell would be transferred out of Pakistan.

An important item of business was our request for permission to purchase food from the Commissary and field rations from the U.S. military. Initial prospects for neither looked very promising.

Saturday, September 3

I went to the Department of Archaeology to meet with the Director-General Dr. F. A. Khan. As in the previous year, he received me cordially and expressed great interest in our proposed survey. He, and the department, had little direct information about the coast except for the brief visit made by Henry Field in 1955. His enthusiasm was tempered by his warnings of the difficulties and uncertainties inherent in such a venture.

There were several basic matters of business requiring attention: first, the formalities involved in obtaining an import permit for our expedition equipment that was coming air freight from Philadelphia. Dr. Khan's assistant, Muhammad Siddique, promised to handle the formalities and get the shipment through the Customs. A more serious problem was that of arranging transportation to and in Makran. Siddique had contacted the major shipping companies and learned that none of them were scheduling trips along the coast until October 15 because of the unusually rough monsoon seas: also travel restrictions had been imposed to help stem the cholera epidemic that was rampant in Pakistan. The third item of business was to obtain the final approval for the survey from the Pakistan government. The request that had been submitted by the University Museum in July was still under consideration. Dr. Khan assured me that it would be approved, but he would not be specific about what it would allow us to do.

The transportation problem was more serious than we had anticipated. Our original plan to start the survey by going by boat to Gwadar and then hiring camels, or a vehicle if available, to go directly to Sutkagen Dor seemed out of the question at that point. As an alternative, we discussed the possibility of going the entire way by land. That would require driving through Las Bela to the Kej Valley. From there

the decision would have to be made either to continue by vehicle all the way down the Dasht Valley to Jiwani or to switch to camels and make our way to the coast to Ormara. That would reverse the intended direction of the survey, but it might provide an advantage. By the time we finished work at Sutkagen Dor, we hoped that the coastal ships would be back in operation and we could return to Karachi directly from Jiwani. But the harsh reality was that we had no vehicle, and inquiries had not come up with any prospects of hiring a suitable vehicle in Karachi.

Monday, September 5

I met with Caldwell at the embassy. He gave me names of everyone he could think of who might be able to assist us with goods, services, or information. But as for obtaining food supplies from the Commissary, he admitted that our chances were not promising.

Tuesday, September 6

Our request to make a limited number of small test excavations at Sutkagen Dor was reviewed favorably by Dr. Khan. He was not willing, however, to give permission to make test excavations at other sites we might encounter. He said there has been too much "trial trenching" in Pakistan by foreign missions with no substantial follow up. As for helping us arrange transportation, he phoned directors of various other government departments to inquire about roads, ships, etc., including the shipping master in charge of regulating all commercial coastal shipping, but with no practical solutions. In addition, Siddique phoned the British India shipping company again. They told him that normally they began coastal operations about September 15, but their main office in Bombay had instructed them to suspend services for an indefinite time—perhaps as long as two months—because of the cholera epidemic. So, the transportation problem persisted.

Mr. and Mrs. Caldwell hosted an elegant lunch at the Sind Club for us to meet some prominent figures in the American and Pakistani communities. The club, directly opposite the American embassy, is a physical vestige of some of the best and the worst of the British colonial era. The large sprawling sandstone structure, fronted by exquisitely beautiful gardens, was a haven for members of the British and foreign elite. Still visible in 1960, on the outside of the stone gateway into the property, was the outline of where the original sign was posted announcing that "INDIANS AND DOGS ARE NOT ALLOWED."

Among those present were the director of archaeology, Dr. Khan; Mrs. Ethel-Jane Bunting, wife of the deputy director of ICA; and Dr. and Mrs. Habib. She was involved in developing the Pakistani handicrafts industry by using ancient art motifs, such as those found on Harappan seals, on woodblock prints for textiles.

After lunch, Caldwell took me on a tour of the embassy to meet persons who might be of assistance to us in obtaining, at least, emergency food supplies, and advice on transportation. But all our inquiries received a common noncommittal reply. For example, the asst. naval attache told us that he would check on ships for us, but he was not enthusiastically optimistic; a major in Air Force MAAG said that there was a possibility he could locate some in-flight rations, but he also was not optimistic; a captain in Air Force MAAG informed us that there are "no extra rations available at the moment but if something turns up he will notify Mr. Lucius"; the second secretary, and political officer, of the embassy expressed considerable interest in our proposed expedition. He said that he had been trying to arrange a trip of his own along the coast but had been "discouraged"; the air attache—just running out to

meet a plane—suggested unenthusiastically that they might be able to arrange a flight to get us out to Jiwani in a couple of weeks, but?? I learned, subsequently, that he and the political officer had been to Jiwani just three days earlier. They reported that it was a fairly large fishing town and that there was a severe water shortage due to lack of rain. They had seen a limited number of animals and very little forage for them. I also met an officer in the Economic Section, Ed Kemp, who had been to Ormara by ship and had photographs of the area. And lastly, I was approached by Army Captain Frank K—, an "Area Specialist" in the office of the embassy's political officer, who asked to accompany us on the survey (which he did). We heard, unofficially, that all the interest in the coast was related to U.S. government plans to develop seaports for possible military purposes.

I then went to a few automobile dealers to see about renting a vehicle and hiring a driver. I was astonished to hear from one dealer after another that they did not hire out vehicles and didn't know a driver who would agree to make the trip anyway.

Wednesday, September 7

Barbara and I went to the Sind Club in the late afternoon to meet Robert L. Raikes and his wife Janet. Bobbie, as he preferred to be called, was a professional hydrologist with extensive field experience throughout East Africa, the Near East, and South Asia. Currently he was serving as a consultant to the Pakistan government's Public Work Department and Irrigation Department. Much of his hydrological fieldwork had been done by camel or on foot, and he had developed an acute sense of the delicate relationships between water sources and human habitations. This led him logically to an interest in archaeology to provide time depth to his research on modern water sources and usages. During his journeys he had discovered many archaeological sites in Baluchistan, some of which were later excavated with important results (Raikes 1968).

Raikes was in bed with the French doors of their ground floor apartment opened wide to provide a splendid view of the gardens that he loved so much. His wife, Janet, was a nurse with extensive experience in the Sudan where she and Bobbie had met. She had to spend a considerable amount of loving time caring for Bobbie's aches and pains, especially the back pains that had him in bed when we met him. But pain or not, he was leaving the next morning for an eight day exploration, by camel, of the area north of Las Bela along the eastern edge of southern Baluchistan.

As proved to be "de rigueur" for every meeting with Bobbie over the next thirty years, we began with one of his distinguished Pink Gins. We discussed the problems of transportation to Makran. He suggested the possibility of our group meeting him at Liari, south of Las Bela, where he would arrange for camels to take us on to Makran. We could then proceed south and westward along the coast together. He was anxious to visit the region himself. Riding camels in Baluchistan could be hired for 150 rupees per month (about $30.00) and pack camels for 120 rupees (about $25.00)—well within our budget possibilities. It was an exciting prospect but unfortunately, as we were to experience many times during the coming years, the best thought out plans often did not result in action.

Thursday, September 8

I went to the offices of the Department of Archaeology to meet with Siddique concerning our air express shipment from Philadelphia. Notice of its arrival had not yet been received so we sent a telegram to the University Museum to

remind them of our schedule. While at the Department of Archaeology offices, I was introduced to Mohammad Rafique Mughal, a junior officer in the department, who was to be our representative on the survey. He was very pleasant and intelligent and eager to help. We set a time to have him introduce us to the local bazaars and assist us in making purchases for the survey.

In the afternoon I went to the embassy. Caldwell had four boxes of "In-Flight Rations" for us—all that he could wrangle from the Air Force attache. Hal Lucius informed me that at least some of the coastal shipping companies had decided to resume operations beginning on September 17, but nothing was certain. I then talked with Captain K— who had expressed the desire to join us on the survey. He took me to his boss, an Air Force colonel, who said he would consider the request. We never did understand just why the captain was interested in seeing the coast under such primitive travel conditions when the military had numerous planes and ships in the area. I urged the colonel to decide as soon as possible because I would have to obtain permission from the Department of Archaeology to include the captain in our group.

Saturday, September 10

Barbara checked with PAN AM concerning the shipment of our equipment from Philadelphia. Fortunately, it had just arrived and was in Customs at the airport. It was too late in the day to obtain the official clearance papers, so that business would have to wait until the coming Monday.

We went on our first tour of the old bazaars with Mr. Mughal. He led us through a maze of noisy, people-jammed alleys lined with a myriad of open-faced shops displaying every imaginable type of product: brightly dyed silks and cottons; metal, wood, and plastic utensils; dazzling displays of gold and silver jewelry; and clothing that included quite inhuman pre-shaped brassieres. In other areas of the huge bazaar district we visited metalworking shops where we placed an order for a dozen hand-picks to be made for our excavations. We also placed orders for bamboo poles, reed mats, and numerous other items that Mughal recommended for the journey. We were surprised at just how much was available in the local bazaars and how inexpensive things were. We could have saved considerable money on some of the items we had air freighted from Philadelphia.

In contrast to the opulence of the bazaar shops, however, rationing of some critical items was still imposed by the government. Of direct concern to us was the strict rationing of cotton cloth. We needed a considerable quantity for our pottery sherd bags. It was necessary to make a written request to the government through the Department of Archaeology. We ordered a couple bolts of dark bluish-grey cotton cloth. It was called "militia cloth," because it was the material used for the summer uniforms of the para-militia personnel. Once approved and purchased, we handed over the bolts to the tailor who worked for the Department of Archaeology, and he made sherd bags with string closures for us.

Sunday, September 11

We met with Captain K— at the embassy. He had received official embassy permission to go with us, but I had to also obtain Pakistani approval. He said he planned to accompany us for the first two weeks and then would return to Karachi by boat. He said he had a line on some army C-Rations, but this proved to be a hollow promise.

Monday, September 12

The first business was to obtain an import permit for our air freight shipment. Mr. Mughal was very helpful in that tedious procedure.

Barbara and I went to the home of Ed Kemp (embassy economic officer) for dinner and to see his pictures of Ormara. He had been there in May of last year with an American team investigating the possibility of making Ormara a secondary seaport as an alternative to Karachi. It sounded pretty unrealistic to me. As far as we had been able to learn, the geography around Ormara was not at all conducive to road building. But, in a few weeks, we would see for ourselves.

I received a letter from Cuyler Young stating that he could not leave Tehran until the 28th or 29th. This would push our departure time later than planned and would put unwanted time pressure on the survey itself. Both Cuyler and I had firm commitments in the States in early December, so we had no flexibility for extending the final date of the survey.

Tuesday, September 13

Thinking I had all the necessary papers, I went to the airport to collect my air freight. After more than an hour of delays, I was informed that the government paper in my possession was only an Entry Permit. I was sent back to town to get a Customs Duty Exemption Certificate. I soon found myself hopelessly entangled in bureaucratic cobwebs and the victim of petty clerks and peons who knew absolutely nothing about the matter at hand or where I should go to get untangled. I had no recourse but to start from scratch, and I returned to the first office I had visited early that morning. There, after being told that I was just shy of being an idiot, I was instructed to go directly to the collector of Customs and to ignore anyone of lesser importance. The gentleman who so informed me kindly telephoned the collector and explained the situation. The collector agreed to see me the next morning.

MINTON

We had dinner at the home of Dr. and Mrs. Sherman A. Minton. He was a professor of microbiology at the Institute of Basic Medical Research in Karachi. His avocation was that of naturalist and zoologist with a specialty in reptiles (Minton 1962; Minton and Minton 1969). He has traveled extensively throughout Baluchistan and Sind to collect reptiles for the American Museum of Natural History in New York. Just outside the living room, on a covered porch, he had a small zoo with such charming creatures as a seven-and-a-half-foot python and numerous other non-poisonous snakes of the region. In a bottle—thank goodness—was a pickled saw-scaled viper (*Echis carinatus*), an exceedingly dangerous little creature common to this area. He also had a pet pangolin, or scaly anteater, that rolled itself up into a tight, armor-plated ball when approached by almost anything larger than itself. At other times it plodded slowly around the yard dragging its heavy tail and smelling quite awful.

It was important for us to meet people like the Mintons. They were invaluable sources of information on what we might expect to encounter during our survey. Also, they could provide fun and diversion to relieve the bureaucratic anxieties we were experiencing. For example, we were invited to accompany them on an overnight camping trip up the Hab River (northwest of Karachi), ostensibly to see a recently discovered archaeological site, but really to help them look for crocodiles (see September 17).

Wednesday, September 14

I went to the embassy first thing in the morning in response to a call from Hal Lucius. He was arranging for me to meet with a man in Karachi University's Department of Geography who wrote a dissertation on the fishing industry of the Makran coast a few years ago. A meeting was set up at the university on September 19.

Then I headed back to the Customs House to meet with the chief collector. It took several hours, but it seemed that we had gotten from him the crucial document. However, a "guarantee" still had to be obtained from the U.S. embassy. So I hurried back to the embassy and made a sworn statement that we would use the imported items solely for the purposes of the expedition. They promised that the document would be ready for me to pick up the next morning. Then, rather puzzlingly, they told me that all I would have to do would be to go to the airport tomorrow and all doors would be opened.

At the embassy, I also got the final word on our chances of obtaining some military rations for the survey. I could purchase 5-in-1 rations for $4.50 each. That was far too expensive for us. We decided to rely on locally available food staples and hope that we could purchase fresh supplies en route.

Thursday, September 15

As promised, the guarantee document was ready for me at the embassy. What a document it was, complete with a large red embassy seal and red ribbons. I hastened to the airport, document in hand and feeling rather pleased with myself that I had finally worked through the proper procedures. But immediately upon presenting the document to the assistant collector, to whom I had talked only two days before, I was berated for not having initially checked with him about procedures. In effect, I wasted two days according to him. However, the embassy "dazzler" proved to be the key to opening eyes, if not doors. Next, I had to hire a clearing agent for thirty rupees. This was money well spent. Without him, I would have been stuck in Customs for another week.

After all this procedural hassle, the final charge to retrieve my shipment was only 61 rupees ($12.80). Before taking the two boxes from the airport, however, I had to unpack them both and check off each item against the inventory list. That accomplished, I took the boxes to the Department of Archaeology's storeroom to await final packing for our trip. The shipment included collapsible, metal-frame cots, sleeping bags, tents, camp cooking outfits, and an inflatable rubber raft. The raft was intended for possible use along the coast to reach places where boats or camels might not be able to reach.

Friday, September 16

We checked with the Department of Archaeology, but our permission for the survey had not yet been received from the ministry. So, we did more shopping before going to the Buntings' house for lunch. They graciously invited us to stay at their house from the 25th until we could set off on the survey. Then we had afternoon tea with the Raikeses. We were disappointed to hear that Bobbie had not had an opportunity to contact the deputy commissioner at Las Bela concerning our proposed land route through his district to Makran. So that travel alternative is virtually dead. Nonetheless, we did have useful talks about other practical matters not the least of which was that they were having their cook search for someone to cook for us

during the survey. That demanded a very special type of man, and we welcomed the help.

Saturday, September 17

At six A.M. Barbara and I arrived at the Mintons' house for breakfast before setting out on our overnight archaeological and reptile searching expedition. We drove north from Karachi for about eighteen kilometers to the village of Mangho Pir. Named for the thirteenth-century saint, the village had a shrine to the saint as well as two hot sulphur springs guarded by crocodiles.

Like most such places there are conflicting stories about its origin. One tradition (Shaw 1989) says that when the saint came from Arabia in the thirteenth century, he inadvertently brought crocodiles with him in the form of head lice. Soon after his arrival, two oases sprang up from the desert with hot springs gushing out from a clump of date palms. The crocodiles jumped in and have lived there ever since.

Another tradition, related by Richard F. Burton in his fascinating mid-nineteenth century book on Sind (1851) says that a great pilgrim turned a flower into an alligator, "whose descendants still wallow in the mire of the marshy pool." Whenever a man had a desire that he thought Heaven might be induced to grant, he could go to the pool, kill a goat, and offer the flesh to the reptile. If it ate the flesh, the votary could feel assured that his wish would be granted.

Whatever the tradition, the fact is that the reptiles are of a snub-nosed variety that is unlike the long-snouted gavial common to the Indus. The shrine and the hot springs are popular with pilgrims who go seeking blessings and cures, particularly for rheumatism, skin diseases, and leprosy. If nothing else, the warm pools provide free baths for the throngs of children who are taken there by their parents. I wonder if there has ever been an archaeological study made of such pilgrimage places. They are so important culturally and the spoken traditions are so inconsistent. But, perhaps they should continue that way.

We continued driving northwest to cross the Hab (or Hub) River at Band Murad where the blacktop road ended. When we reached Hinidan, we crossed again to the east side of the Hab. The water there was above the jeep's running boards. We continued northwards to Dureji where there was a small police post. The only other persons we had seen were small groups of Baluchi nomads who lived in the region in temporary shelters during the winter months. From Dureji on we encountered difficulties following the track which crossed numerous *nalas* (streams). Another fifteen miles got us to Diwani where we crossed a large riverbed whose water—when there was any—fed into the Hab. Seven miles north of there the track passed right through the ancient site of Diwani that had been discovered by Minton and the American archaeologist Walter A. Fairservis (Fairservis 1961, 1967, 1975).

Diwani is about 300 to 400 yards from north to south, extends about 300 yards to the west from the base of the mountain (Khirthar Range), and rises to some 15 to 20 feet at most above the flood plain. Its surface is severely eroded, but there are clear remains of stone foundations (30 inches wide). Rooms are about 10 x 15 feet in area. There is a narrow passageway between two buildings and what appears to be a flight of steps (?). The site is covered with sherds, some Islamic, a Scytho-Parthian-like spout, and abundant painted sherds that belong clearly to the prehistoric Nal culture of southern Baluchistan (early third millennium B.C.). We found two clay animal figurines, one of which is of a humped bull.

Behind the site in a narrow gap through the mountain are the well-preserved remains of about half of what seems to be a dam constructed of local stones. The wall stands 10 to 15 feet above the streambed. Behind this dam a narrow valley stretches back into the mountains for about five miles. It is marked on our old British map of the region as a marshy area. It would be interesting to explore the area sometime.

Along the track as we drove south from Diwani, we saw numerous stone tombs of the Chaukundi type that are well known from the huge fifteenth-sixteenth century Islamic cemetery twenty-seven kilometers east of Karachi. More than a hundred graveyards with Chaukundi-style tombs have been identified in Sind and along the Makran coast. Later, we discovered an otherwise unknown group at Ras Malan in Makran.

The temperature was uncomfortably high all day, and all of us suffered from it. We drove back to Diwani in the late afternoon and set up camp. Water in the river was unusually low for this time of the year because the summer monsoon failed to bring sufficient rain to the mountains. We searched for crocodiles but found none. After a simple supper, and nightfall, Minton and I went reptile hunting (or rather he went reptile hunting, and I was coerced into accompanying him!). We walked a good four miles along the banks of the river using flashlights, but to my selfish delight we saw nothing but frogs. The day before, while driving up here, we had seen scads of lizards (geckos). Most were small, spiny-tailed ones about ten inches long that Minton claimed are edible. Also, we had spotted several formidable Desert Monitor lizards (*Varanus griseus*), those primordial, cantankerous creatures that grow to be about four and a half feet long. We had an exceptional experience which even Minton had not had before, of watching one of these creatures, unperturbed by our proximity, digging a hole just three feet from the side of the track. We were assured by Minton that we would encounter these creatures in Makran.

We inflated our air mattresses and turned in at 10 P.M. under the open sky. A strong convection wind was blowing, but about 10:30 it stopped. It was replaced by swarms of mosquitoes that pestered us through a long and restless night.

Sunday, September 18

Most of the day was spent exploring for archaeological sites and looking for reptiles. No significant discoveries were made in either category, but Barbara and I returned to Karachi satisfied that we had had a valuable introduction to at least part of Baluchistan and the varieties of geographic and other conditions that we could expect to encounter in Makran.

Monday, September 19

The government permit for the survey still had not arrived. Since the Department of Archaeology hasn't been able to shake it loose, I resorted to our embassy for assistance. Hal Lucius took me to the Karachi office of the Ministry of Foreign Affairs where we learned that our permit was tied up in the Ministry of Education. As soon as 'Education' approved it, it would be sent to 'Foreign Affairs', and finally to the Department of Archaeology. My file at Foreign Affairs started in July with the letter Caldwell had sent to them on our behalf. They had no record of the original request that we had sent through the Pakistan embassy in Washington, nor was there any record of the Department of Archaeology having notified them of our project.

Part of the problem had to do with larger problems the government was having with shifting the capital. The move from Karachi to the newly constructed capital of Islamabad in northern Pakistan just north of Rawalpindi was creating havoc. Official files were either still in Karachi or in temporary holding in Rawalpindi or in packing crates in the new capital. The best procedure was to pursue any lead you might get and hope that your own files would be found. Hence, we went to the Ministry of Education and met with a Mr. S. M. Ali. He was the first person in the ministries to actually do something for us on the spot. He called in the man in charge of our file in Karachi and immediately phoned Rawalpindi to talk with the minister of education himself. Phone service being what it was—you had to "book" a long distance call even within Pakistan. The procedure could take hours. We left the ministry to await a call from Mr. Ali. Several hours later he phoned me at the hotel to let me know that the minister hoped to have the permit cleared in one or two days.

We were temporarily stalemated. Barbara and I decided to stay in the hotel room for the remainder of the afternoon to escape the oppressive heat. Our rest was interrupted by a knock at the door. The room boy announced that two men were asking to talk with me. Two husky Baluchi men wearing soiled, baggy pants, loose-fitting, western-style suit jackets, open sandals, and voluminous, green-checkered turbans came into the room. They had heard that we were looking for transportation and offered to drive us in their truck to Liari. Liari is not much more than a crossroad junction on the western side of Sonmiani Bay, at the eastern fringe of the Makran coastal mountains. They made a modest request for what must be a difficult trip—only 125 rupees ($26.00) plus gas and oil. We did not accept this offer on the spot. What would we do after being unloaded at such a remote spot? We would have to try to make arrangements for other transport to take us into Makran proper from Liari—but through whom?

Hal Lucius phoned to give me the name of the manager of Tidewater Oil, one of the American companies searching for oil along the coast. I phoned the manager, Scotty Mitchell, who informed me that they have men travelling regularly between Panjgur (in the Kej Valley in northern Makran) and Pasni and Jiwani, two of the coastal communities we planned to visit. Twice a month they had a ship go to Pasni with supplies. They also flew their own plane four times a week to Panjgur. This sounded just like what we needed. I made an appointment to meet with him Wednesday morning.

We had dinner at the home of the Luciuses. Ikramme Rohman, head of the Department of Geography at Urdu College, was there also. He gave me a copy of a dissertation completed in 1956 by Dr. Mohammad Ismail Siddiqi, head of the Geography Department at Karachi University. The dissertation, "Fishermen's Settlements of the Coast of West Pakistan" should be useful. Rohman said he would arrange for me to meet Siddiqi. The resident manager of Hunt Oil, Tony Petullo, was also present. This was one of several American companies exploring for oil along the coast. He was later to show me aerial photographs of parts of the coast.

Tuesday, September 20

Mughal accompanied me to meet with the deputy director of Central Fisheries who had been stationed at Pasni for seven years and claimed to know the coast well. He was exceptionally cooperative and offered every bit of help possible. But first he needed a letter from the Department of Archaeology stating our mission. He would then telegraph the authorities in Pasni to reserve room in the Rest House

and to make a jeep available for us. He phoned several shipping companies and found one called Muslim Navigation Company whose manager said they could take us to the coast. Mughal went to check into this immediately after we left the Fisheries office. This was the first positive breakthrough concerning basic transportation for the survey.

Wednesday, September 21

I went for my appointment with Scotty Mitchell, manager of Tidewater Oil. The company offices were unexpectedly modest—just a few rooms in a rented house. Mitchell was an affable and cheerful chap, not unlike most of the oil and construction people we met in Pakistan, and later in Afghanistan. We discussed various subjects: travel, availability of local supplies, etc. along the coast. Their area for exploration was the Kej Valley in southern Baluchistan, mainly around Panjgur. He had driven from Panjgur to Pasni, through the coastal mountain range. It was, he said, an arduous, full-day trip in a four-wheel-drive vehicle. He said it was also possible to drive from Panjgur to Ormara, but that it was even more tedious and difficult. On the other hand, the drive from Panjgur, west along the Kej Valley and then south down the Dasht Valley to Jiwani, was relatively easy. That was of special interest to me because it was in the Dasht Valley that our major archaeological objective was located—the site of Sutkagen Dor.

Mitchell showed me air photos of the entire Makran coast (from the Canadian Colombo Plan survey of most of Pakistan). The scale was one inch to four miles. He arranged for their geologist to make the photos available to me for study. We then discussed various aspects of the physical nature of the coast. His opinion was that the coast is still geologically very active, that the coastline has risen considerably, and that Ormara and Gwadar were islands that are now connected to the mainland by sandy stretches, tombolos, formed by coastal currents. As for Ras Malan, he had flown over it many times and had observed that the terrain was exceedingly rugged. He could discern only two practical approaches to the top of the rock massif: either from the west, by going north of the first range of coastal mountains and then ascending the Ras up the more gentle, northern side, or by going up the rugged river valley that empties into the sea about midway along the cape. A few weeks later we would experience for ourselves just how difficult that part of the coast is.

Mitchell also phoned Tony Petullo at Hunt International Petroleum Company, whom we had met at Luciuses' a few nights before. He arranged for me to go to Petullo's office the next morning to look at his large-scale blowups of the same air photos shown to us by Mitchell.

When I returned to the hotel there was a message from Mughal at the Department of Archaeology. He had contacted the Muslim Navigation Company and was assured by the manager that we could get passage on one of their boats around the first of the month. We discussed this on the phone and quickly decided to take this option and get on with it. I picked him up in a taxi, and we went in search of the company office to finalize the arrangements.

And search it was. After more than an hour of driving and walking through the winding, mostly unpaved streets and alleys of one of the poorer parts of north Karachi, we found the office. It struck me immediately upon seeing the shabby facade of the office that we must be a bit insane to even think of entrusting our lives to a company with so little pride in its business office. But immediately upon entering the dimly lit single room we found ourselves in a most friendly and

apparently efficient atmosphere. We described to the manager the formidable quantity of baggage and equipment we would have with us. "No problem," he said, and we would have the "First Class" accommodations—a single private cabin. October 1 was set as the tentative date for our departure from Karachi—their first voyage of the season.

In the evening, two men came to the hotel to apply for the job of expedition cook. One was a rather chubby, cheerful chap who had worked for various foreign families in Karachi and claimed expertise in both Western and Pakistani cooking. But all his experience had been in urban kitchens. When we described the probable conditions he would be travelling and cooking under, the enthusiasm drained from his face. He conjured up some rather feeble excuses why, after all, he probably would not be able to go. All the better. He would have been a disaster in the field.

The second man, Noor Muhammad, impressed us positively after just a brief interview: a tall, thin, fragile-looking man with very dark skin. He had a face wrinkled like that of an apple-doll you see at American country fairs and powerful hands with beautifully long fingers. He had traveled widely having been a cook-bearer in the British army both in China and Egypt during the Second World War. He was used to field conditions and had no reservations about going with us. Barbara, who would have to work most directly with him, approved of him enthusiastically. He agreed to a salary of 120 rupees ($25.00) per month plus expenses. Imagine!

Thursday, September 22

I spent all morning at the Tidewater Oil office studying the air photos of the coast (scale 1/2 inch = 1 mile). It was illegal to make copies of them, so sketches and memory would have to do. Comparing them with the topography on our old British Survey maps and our Air Force Approach Maps was extremely helpful at the desk top level. The 1:1 scale realities in the field proved to be something quite different.

At the hotel, a telegram from Cuyler Young was awaiting me saying he would arrive from Tehran late on October 1. I cabled back immediately to inform him that we had reservations on the boat to leave Karachi on October 1 and that he should get here a couple of days before that if possible.

Friday, September 23

Hal Lucius took Barbara and me, along with Mr. Rohman, a geographer at Urdu College, to Karachi University to meet with Dr. Siddiqi. I had read the dissertation on Makran fisheries that he did for Keil University in Germany, and we were anxious to learn more about his practical experiences along the coast. Unfortunately, it proved to be an almost painful interview. He talked vociferously and, every time we asked him a specific question, pompously referred us to his book. Much talk, but little of substance, or even of interest, said.

The afternoon proved to be much more productive. Through Mr. Reinemund at ICA in the embassy, I contacted Dr. Habibur Rahman of the Geological Survey of Pakistan. He invited me to his office across from the old colonial Palace Hotel. He had just received copies of the new topographic and geological maps based on the Canadian Colombo Plan aerial surveys. Not only was I allowed to see them, I purchased two complete sets of them. Not long afterwards, their sale was restricted. They proved to be valuable during the survey as far as gross topographical features were concerned and were a welcome supplement to our other maps.

Saturday, September 24

I spent most of the morning with Dr. Khan at the Department of Archaeology. He booked a call to the Deputy Minister of Education in Rawalpindi concerning the status of our permit and promised to contact me as soon as he had any new information.

Noor came to the hotel in a horse-drawn carriage to take Barbara to one of the marvelous living monuments that has survived from the British period—the huge food emporium in the center of town called Empress Market. When she returned, after making purchases for the expedition, she described her experience like this:

> Noor was dressed in starched, white cotton trousers that reached just above his ankles, showing well-worn, black polished shoes and no socks. His shirt was also of starched cotton and hung at an odd angle from, what appeared to me to be, very thin shoulders. A big smile showed that he was ready to take on the job with gusto.
>
> The carriage took us to the street opposite the market where the driver explained that to take us to the front steps would be too slow and tedious for the price that Noor and he had agreed on. The wide street was filled with carriages, camel and donkey carts with dangerously high loads, three-wheeled motor scooters ("rickshaws") that whizzed in and out of what seemed to be impossibly small spaces, city buses, and private cars, all alternately lunging forward and stopping abruptly to the accompaniment of incessant horn blowing. I was unsure that all this was such a good idea.
>
> In the midst of this confusion stood a traffic island. It was just large enough for one police officer, clad in an immaculate white uniform complete with white gloves and an alarmingly loud whistle. His job was to keep a continuous flow of traffic moving in time with his precise arm movements and whistle blasts, with no hesitation from one direction to another. A pedestrian had to coordinate his adventure to the other side of the street in tune with the movements of the officer.
>
> After crossing the street safely, I oriented my vision to the steps leading into the market. There was an instant mob of boys with baskets clamoring to lead us to the food stalls and carry our purchases. I picked Abdullah, not because he was more neat, clean, or tidy than the others, or because he spoke some English, but because he was first to approach us and liberated us almost instantly from the boyish swarm. (He was to be our carrier for many years to come. Even after being away from Karachi for months, he would somehow learn when we were coming to the market. Some sort of primitive but extremely efficient communication system connected the hotels, taxi drivers, and market).
>
> As I entered the market, I was shocked to see what I thought were extremely unsanitary conditions. Food was displayed openly for all to handle, and swarms of flies were everywhere. Shopkeepers made rather bored gestures with fly whisks to disperse them, but they only transferred the nuisances temporarily from one spot to another. Scruffy cats and mangy dogs slithered just out of human contact but close enough to grab any dropped or cast-off food. Buckets of questionable water were placed in convenient spots for the shopkeepers to use to sprinkle their produce. Bare-bottomed babies toddled close by their mothers who sat daily at the entrances to the galleries weaving baskets or making string. They greeted shoppers with words of advice as to where to shop, or asked for rupees to supplement their meager earnings.

It was like stepping into a carnival: waist-high platforms with pyramidal piles of fruits and vegetables, or whatever that particular stall was offering. And in the midst of all the color and din, one person at each stall ruled over the cash box and made all the calculations of what I purchased from him. Some shops displayed old photographs of the fathers and families of the current merchants showing that the family business had been conducted in Empress Market for years—perhaps generations.

There was usually one helper at each stall who scurried about weighing my purchase or ducking under the platform to bring out additional produce for me to see. My purchases were given to Abdullah who immediately arranged and rearranged the items to accommodate as many as possible in his baskets.

Along with all the din was the wonderful aroma of fresh spices, or of a freshly peeled orange that a merchant had thrust in front of my face to sample. There was stiff competition among the merchants to demonstrate the quality of their products. For example, the coconut vendor would slam a large knife into a coconut just to show me how fresh it was.

Noor and Abdullah were marvelous at sniffing out the freshest and top quality fruits and vegetables, and the best varieties of rice and spices. Bulk items such as rice, flour, and sugar were ladled from huge burlap bags. Already-ground spices were stored in large glass jars that had probably been used for that purpose for generations. Whole spices laid on counters in heaps for shoppers to handle and pick over.

Noor insisted that we take half a dozen live chickens with us on the expedition. He picked out six which he had poked and squeezed and declared fit for travel. He took them home with him to fatten them up for the journey.

In the main quadrangle of the market, the man-made household items were displayed, again in colorful arrangements on shelves or hanging from poles. I had only to point to what I wanted and instantly other shopkeepers would attempt to get my attention to look at their products. I then had to bargain with the competing shopkeepers. They were skilled and experienced at this game, and I had to learn fast how to select the best quality for the best price.

After shopping, while Abdullah and I waited at the entrance for Noor who had gone to hire a carriage, I wondered at the amazing mass of commodities that I had just seen in that decaying structure. The Victorian Gothic market, designed as a roofless quadrangle with four galleries off the open center, was built in the 1880s. It was obvious that no renovations had been made over those many decades—only the squeezing in of as many more stalls as possible.

That was the first visit to the Empress Market, visits that would be repeated so many times over the next thirty years.

Sunday, September 25

Barbara and I moved from the hotel to the Buntings' home, one of those excessively large, rambling houses with marble floors, whitewashed walls and ceilings, and a bevy of servants that is the stereotype of houses inhabited by much of the foreign community in Pakistani cities. What a delightful, and supportive prelude to our coastal adventure.

Monday, September 26

A call from Dr. Khan's office informed me that the approval for our survey had been communicated to the department from Rawalpindi. I went immediately to his office where I spent several anxious hours waiting for the bureaucratic wheels to grind out the actual document. Finally, at one-o'clock we signed the contract. We had official status at last. The license was brief, and the terms about what we had expected. The one disappointing clause pertained to the excavation of test pits at sites. It restricted us to one small excavation per site. This in itself was not unreasonable for newly discovered sites, but we had specific plans to reinvestigate the large site of Sutkagen Dor. One small test pit would certainly not be adequate, but we would have to make the best of it.

All we needed then were Cuyler and the ship. We checked with Muslim Navigation Company again. Their departure date was still uncertain—sometime between the 28th and October 2 depending on when the ship arrived from its starting port of Bombay.

Tuesday, September 27

A telegram arrived from Cuyler—he would arrive on the 28th or 29th. The navigation company phoned to tell me that the ship was definitely scheduled for departure from Karachi at 2 P.M. on Saturday, October 1.

Wednesday, September 28

Cuyler arrived on the morning flight from Tehran full of news about the discoveries made by the University Museum's excavations at the Iron Age site of Hasanlu in Iranian Azerbaijan.

The Buntings put on a fancy luncheon at their home. In part it was to welcome the visit of a Mrs. Sherwood whose husband was head of World Bank in New Delhi, but it was also given as a send-off for us as we prepared to depart on our first independent archaeological explorations.

Ethel-Jane Bunting, our hostess, must have gotten some vicarious pleasure from giving us that send-off. She was a remarkable woman who upon arriving in Pakistan in 1958 with her husband Frederick, deputy director of the U.S. Operations Mission (ICA), immersed herself in studying the cultural and artistic traditions in Sind. She worked closely with the Department of Archaeology and was invited by the director-general to redecorate the Indus Valley Hall in the National Museum which was then housed in Frere Hall, the magnificent Victorian Venetian-Gothic structure that graces the park across from the American embassy. She was an avid recorder of the ornate Islamic stone tombs found throughout Sind, taking photographs and making rubbings of the carved decorations. There was no place too remote for her to go in her search for unrecorded monuments. Also, she collected textiles and published a beautiful little book (1980) showing the similarities between textile patterns and the patterns on the centuries-old tombs.

In addition to the guest of honor, Mrs. Sherwood, Janet and Bobbie Raikes were present; also Mrs. Shereen Nana, wife of the prominent Karachi judge and patron of the arts, Feroz Nana; Mrs. William Hall, wife of the deputy chief of the U.S. embassy; and other distinguished persons with cultural and artistic interests. That evening we went to the Mintons' for an early dinner before I went over to talk to Sherman's Boy Scout troop about archaeology. The Mintons' also gave us some bottles of solutions and hardware for preserving any reptiles we might capture.

Thursday, September 29

The entire day was spent packing for our journey and collecting the various items we had ordered in the bazaars. That proved to be a nerve jangling, but also comical, experience. Mughal and I first had to face the problem of how to transport the bulky items to the dock. Large trucks were prohibited from the parts of town that we would have to traverse. What I thought was a difficult, even insuperable problem, didn't phase Mughal. We went to the transport bazaar in the old city and hired a camel cart—an open-bedded contraption that rolled on old bald balloon tires pulled by a characteristically nasty-tempered camel.

We made the rounds of the various bazaars and picked up loads of bamboo poles, picks, hoe-like digging implements, shovels, baskets, plastic buckets, reed mats, tinned metal trucks, and cloth bags for the pottery we expected to collect during the survey. This proved to be a formidable load that slowed the pace of the camel even more than its normal plod. For over two hours we disrupted traffic in the business districts of Karachi. Horns blew, invectives were shouted at us by frustrated motorists, and policemen threatened, ineffectually, to arrest us. Mughal and I sat haughtily atop the loaded cart as the camel driver yelled and beat the beast with a stick in vain efforts to quicken its pace. Eventually, we reached the harbor and put the items into temporary storage until time for boarding the boat.

Friday, September 30

First thing in the morning, Mughal and I went to the Muslim Navigation Company office to purchase our tickets for passage on their C.C. ("Country Craft") *Mujahid*. The price was right: 30 rupees each for Cabin Class, 20 rupees for space on the open deck. We still had not seen the boat and were running on blind faith. Departure time was still set for 2 P.M. the next day.

Saturday October 1

Mughal, Cuyler, and I went to the Fisheries Department at 10:00 to see Dr. Agha Hussein again. He gave me a letter of introduction to the Fisheries representative in Pasni (there was no representative in Gwadar) and sent a telegram to the Gwadar Rest House to alert them to our pending arrival.

At noon we all assembled on the dock next to the *Mujahid* (*"Warrior"*), the wooden boat that was to take us to Gwadar (plate 2). Unbeknownst to us, the manager of the shipping company had arranged for us to arrive earlier than usual for departing so that we could load our goods and supplies before the arrival of the main group of Pakistani passengers. First, we went through a very cursory and uncomplicated customs inspection and then sat on the dock awaiting the arrival of Bobbie Raikes and Mrs. Bunting who were bringing a farewell picnic lunch. While we waited, three professional snake charmers, who were going to Makran to collect specimens, entertained us with their baskets of cobras.

The look of concerned horror on Ethel-Jane's face as she approached the medieval-looking wooden boat to which we were entrusting our lives, soon turned to one of fascination, and perhaps even envy, as she pondered the adventures she would be missing by not accompanying us. Captain K—, wearing khaki trousers, a safari jacket, and a pith helmet on his head, arrived while we were picnicking. Also, to our amusement, he had a double-barrelled shotgun slung over his shoulder and a double-rowed bandoleer across his chest. We ourselves had chosen not to carry firearms, putting our trust partly in the protection that we anticipated from local officials and the camel-mounted Makran Militia, and partly on the surprise factor:



Plate 2 The Country Craft *"Mujahid"*

surely such a small group of Westerners, including a woman, burdened with stacks of heavily laden metal trunks, bundles of bamboo poles, and baskets of live chickens could pose no threat to Makran.

At 1:00 we started loading our gear onto the boat. Our "cabin" was one small wooden chamber, 7 by 10 feet, usually reserved for ten persons. With all our gear, it was all we could do to squeeze five of us in. It was the only "cabin" in the boat, so we considered ourselves luckier than the rest of the passengers who had to settle down on the open deck. Our cook, Noor, opted for the open deck so that he could safeguard our baskets of live chickens and other fresh food supplies (plate 3).

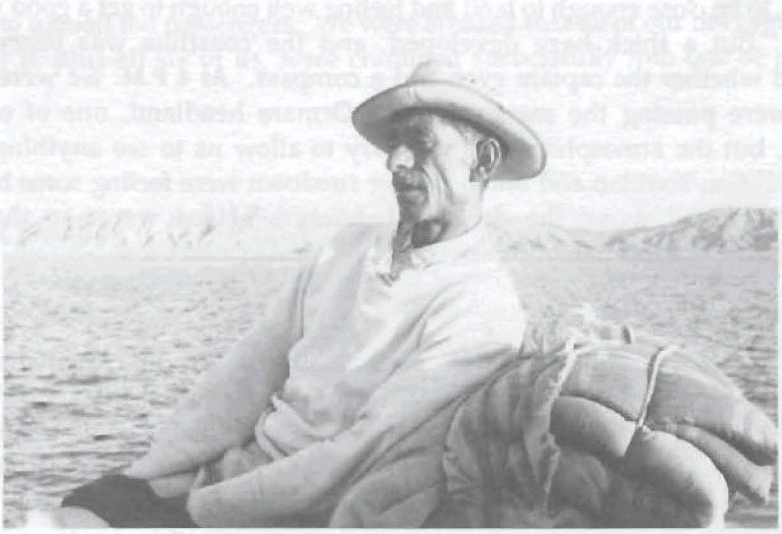


Plate 3 Noor, our cook

Shortly after we completed loading, the stream of Pakistani passengers started to fill the open deck. It was a wild assortment of humanity, animals, and luggage totalling about a hundred persons. Among the passengers were the three professional snake charmers, called Jogis, who go to the coast regularly to collect poisonous snakes. They milk them for the venom which they sell to a medical

research outfit in Karachi. Other passengers included entire families of Makranis returning home loaded down with newly purchased bedding rolls, blankets, food stuffs, and pottery: stacks of Karachi-made pottery being transported more than 200 miles to the coastal settlements. There were also several English-speaking, Western-clothed, college-aged boys returning home from Karachi for short vacations.

The *Mujahid* was some sorry boat (we hesitated to dignify it by calling it a ship). It was all wood, diesel-powered, and had a "kitchen" with open fires in charcoal braziers set right on the deck beside an oven-like firebox supported on mudbricks. Just next to this "kitchen" was the "facility"—one little square chamber suspended over the stern of the boat with a hole in the floor. That was it for the more than a hundred passengers and crew.

At 4 P.M. the captain finally started working the boat out of the crowded harbor. It took more than an hour to clear Manora Lighthouse and head out into the open sea. Only minutes later, all hell broke loose. The sea swells were damn heavy and increased as we made our way westward across Sonmiani Bay. By 7 P.M. virtually everyone aboard was sick. Misery was everywhere. The deck passengers did not even make the effort to go to the side of the boat to relieve themselves. The deck was soon awash with sea spray and vomit. The sheep, goats, and chickens did not fare any better than the wretched human animals. Even the boat's captain confessed to us later that he got seasick almost every voyage. Perhaps the cobras in their baskets were the only comfortable creatures aboard.

Sunday, October 2

We spent a terrible night, awakening from our fitful sleeps feeling even worse than we had during the initial onrush of sickness. The fouling of the deck continued. Mercifully, by noon the sea started to calm, and we hoped, at the minimum, to be close enough to land and feeling well enough to get a good view of the coastline. But a thick haze developed, and the coastline was obscured. We speculated whether the captain even had a compass. At 4 P.M. we were informed that we were passing the massive, rocky Ormara headland, one of our survey objectives, but the atmosphere was too hazy to allow us to see anything in detail. We subsisted on bouillon and bread and by sundown were feeling some better. The crew had washed down the deck with buckets of sea water so the physical environment was appreciably improved.

Monday, October 3

We, and the multitude of people and animals on the crowded open deck, spent a more restful night. By 9:00 A.M. we could see the coastline, but it was still very hazy. We could make out a wall of huge vertical cliffs but could see no evidence of sandy beaches where we might want to land and explore. It was certainly not an inviting scene, even with the harshness of the rock filtered by the haze.[6]

On and on we chugged averaging about six miles per hour. We were scheduled to arrive at Gwadar by 3 P.M. but didn't drop anchor in East Gwadar Bay until 9 P.M. The coast east of Gwadar is very deceptive as seen from the water. The dark outline of Jebel Sur, consisting of Pliocene mudstones lifted to a height of 516 feet, fooled us completely. The haze was still quite thick and made it impossible to get a good orientation. We thought from our maps that it was Jebel Mehdi, an often cited landmark, between Jebel Sur and Gwadar. This feature, also of Pliocene mudstones, is a deeply dissected platform uplifted to 1,344 feet. Its magnificent

wave-cut cliffs, 500 to 600 feet high, make an imposing landform when seen from the sea.

Fortunately, there was almost a full moon, and as we headed slowly into the bay, we were greeted by the anxious shouts of fishermen warning us away from their nets.

Tuesday, October 4

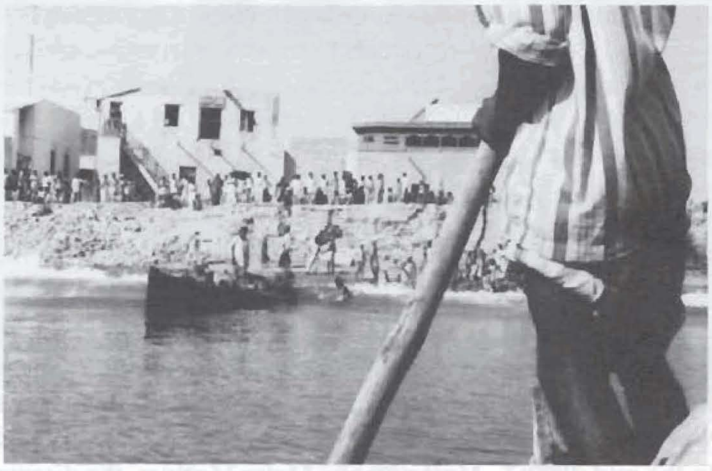
We awoke early, full of anticipation at what our first daylight look at the Makran coast would reveal. Gwadar Bay was very impressive especially with a heavy fog clouding the base of Jebel Mehdi. This massive, uplifted platform or headland dominates the scene rising 476 feet above the sea It is connected with the mainland by a five-mile long sand spit (tombolo) upon which the small town of Gwadar is situated.

We also shared an unspoken feeling of apprehension about the people we would encounter in Makran. The grim description of the Makrani fishermen given by Pottinger (see Introduction, p.1) seemed too biased for serious consideration. But then there were the descriptions provided by Classical authors: Arrian, Diodoros Siculus, and Q. Curtius Rufus, who, for example (see McCrindle 1896 and Eggermont 1975), described the Ichthyophagoi ("fish eaters") as an "inhospitable and utterly savage tribe." The people had long claw-like nails and long shaggy hair, wore skins of wild animals, and fed on fish dried in the sun and on the flesh of "sea monsters" cast on the shore during stormy weather. They lived on the beaches in huts made from stacks of mussel shells and the rib bones of whales. Certainly, we hoped, conditions had improved over two millennia.

We were anchored about one and a half miles from the beach of East Gwadar Bay, near the three fathom limit.[7] We could get ashore only by transferring ourselves and our baggage to smaller boats (plate 4). We waited until almost 10:00 before a few small fishing boats 20 to 25 feet long—called *"horas"* (Greenhill 1972)—came out to unload the passengers. We were amazed that all of our baggage, some 400 pounds of it, plus all six of us, were crammed successfully into one of those small boats.

Plate 4

Arrival at Gwadar



Some of those small boats were not able to get closer than about twenty yards from the beach before running aground. Several of the women were carried ashore on charpois (rope beds), unfortunately not carried high enough to clear the surf. Some of the men were carried ashore on the shoulders of native bearers. Luckily, we were able to work our boat almost to the beach so that by jumping off the bow we were able to stay relatively dry. All our baggage was carried ashore on the heads of bearers (plate 5).



Plate 5 Landing at Gwadar

We landed just below the Customs House. The Customs officials claimed that they had not been notified of our arrival and were quite surprised to see this group of foreigners, especially a woman. Mughal eventually convinced them that we had government approval and were carrying government equipment, and they let us pass without further questions. While the rest of our team rested on the beach with our equipment, Mughal and I went to meet the tahsildar (the chief revenue officer of an administrative subdivision). He was a cooperative and helpful fellow who promised to arrange for camels to transport us to Sutkagen Dor the next afternoon. It would be an overnight journey he told us. Water would be available at the Suntsar levy post north of Sutkagen Dor. He said also that chickens, eggs, and limited labor would be found there. We should pay the going rate there for labor which he said was 2 1/2 or 3 rupees per day (about 60 cents). Rates were much higher in Gwadar, around 15 rupees (about $3.15), because most of the local men worked part time in the Persian Gulf for the oil companies and made high wages there.

After much haggling, we finally arranged for our gear to be carried to the old government Rest House, as the newly constructed one was occupied. The heat was terrific and a steady strong wind from the southwest dehydrated us even more. The Rest House, perched on the highest elevation in town, consisted of the shell of what was once an impressive residency for the British officers and families stationed here in the mid-1800s[3]. Most notably, Major Mockler, the discoverer of Sutkagen Dor, had lived there. The Pakistan government was slowly trying to renovate it. We had to stop two workers from tearing off what was left of the roof (plates 6 and 7). After purchasing six tins of fresh water, we all had most refreshing baths. Noor, confident and efficient in his spartan surroundings, cooked a delicious fresh fish curry for lunch.



Plate 6 Gwadar: Old British residency in background

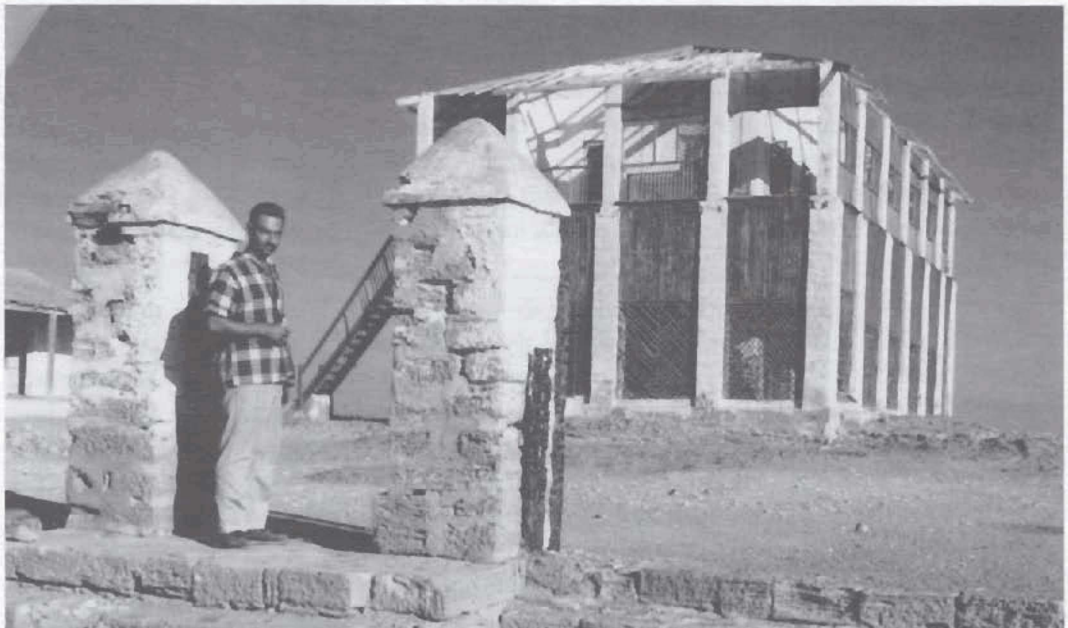


Plate 7 Gwadar: Rest House/old British residency

After lunch and a brief rest, we walked about the property associated with the Rest House. Some 180 meters north of the northeast corner of the house and about 15 meters in from the present edge of the beach bluff is a small English cemetery with the remains of seven graves (figure 3). The original iron fences around each grave are mostly gone. We also found indications that a metal fence surrounded the roughly

square platform upon which the burials are located. The cemetery was in deplorable condition: what headstones had not been demolished were being defiled by the villagers. The inscriptions on only three of the seven graves were found:[9] two dated to the time of Major Mockler's residence and one later, after the office of British political assistant had been turned over to local authorities. About 16 meters north of the cemetery stood a Christian monument that showed no signs of vandalism. It consisted of a square column of conglomerate stone topped by a truncated pyramid on top of which was a stone cross. The surfaces were badly worn and revealed no trace of an inscription. Its relation to the cemetery proper is unknown.

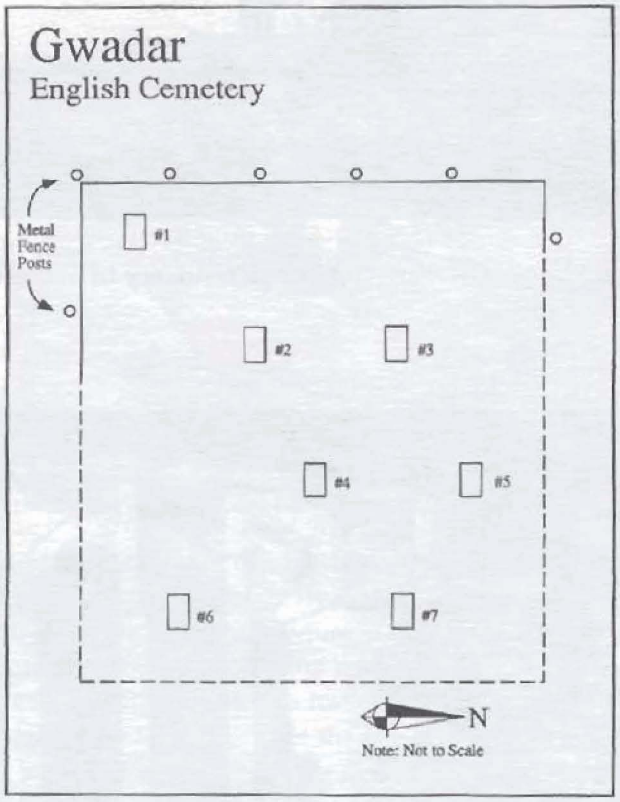


Figure 3 **English Cemetery at Gwadar**

Then we walked across to the western edge of the sandy isthmus connecting the huge headland with the mainland. After reaching the western edge, we followed the beach south to the 476-foot-high rocky bluff at the approach to Gwadar Head. At the base of the sheer cliff, we came upon a peculiar mudbrick shrine (figure 15, #3). On each side of the structure paths led to what appeared to be tiny caves in the cliff face. The cave to the left of the shrine had a wooden door. To the right of the shrine was what looked like a double tunnel affair with both entrances blocked with mud. We later learned that this was the home of some holy man, but we were unable to learn any more details.

From there we walked into the village. The people, including the women, are exceptionally friendly. The village itself was neat and clean with well-made mud houses and shops. The streets were unexpectedly clean. It proved to be a truly picturesque place, at least within the village itself. The beaches were another matter, reeking with the smell of dead fish and human excrement. Still at night,

with a full moon, a cool breeze, and the sound of the pounding surf, we felt relaxed and fortunate to be there. We would return to Gwadar on our return trip along the coast to conduct some surveys of the area. Our overwhelming concern now was to obtain transport so that we could get on with our survey.

Wednesday, October 5

We spent most of the day repacking our bulky gear so it could be carried more efficiently by the camels that had been promised to us. It was 5 P.M. before eight camels with four barefooted local drivers appeared on the beach below the Rest House. They were one-humped baggage camels—with wooden "saddles"—not the more comfortable riding camels we would encounter later in the survey. As I looked at those dirty, unkept creatures, I remembered the detailed instructions given to me by Beatrice de Cardi about how to bargain for and select the best camels. Unfortunately, when you need eight camels and there are only eight camels available, you have no choice.

It took about an hour to load the camels with the tin boxes of supplies, the tents, the inflatable rubber raft, and the baskets of live chickens. As the sun descended behind the massive silhouette of Gwadar Head, we climbed aboard our "ships of the desert," squeezing two of us into each small saddle; an arrangement that proved to be increasingly uncomfortable and painful (plate 8).

Our initial goal was a dot on our old British maps called Akara "water hole," only some thirteen miles distance. At last we were really on our way, and on our own, free from the bureaucratic perturbations of Karachi. The feeling of release and the tingling sense of potential adventure made us break out into random smiles as we plodded for four and half hours to Akara. Even the physical discomforts of the wood-frame saddles were tolerated good naturedly as we delighted in the full moon and the cool gentle breeze. The ground was a sandy clay mixed with marine shells—skeletons of geological convolutions in the distant past. We would have chosen to dismount and walk at intervals but were warned by the camel drivers that it was too dangerous. Why?—they did not say.

As we approached the Akara depression, we saw that it was little more than a wide place in a streambed with stagnant muddied water. The pool was surrounded by higher ground that cut out any view of the landscape or of the horizon, but the depression provided a welcome shield against the increasingly chilly breeze. We spread out our bedding rolls on the warm sand and settled down to sleep. Thinking we were the only travelers in the region, we were surprised to be awakened throughout the night by the plodding sounds and slobbery exhausts of dozens of camels passing in file, silhouetted against the moonlit sky. It was like a ghostly montage made even more impressive because we knew not from whence they came or to where they were going.

As the sun rose and lit the top of the sand dunes surrounding us, we were confronted again with a scene of utter tranquility: no shuffling, slobbering camel trains, no commands of "hoosh! hoosh!" from the drivers—only a static, lonesome feeling of being somehow suspended in time and space. Suddenly we were called back to the damp, chilly reality of our situation as our own camels unfolded their spindly legs and awkwardly rose to tower above us.

While we devoured a breakfast of biscuits and jam, washed down with cups of steaming tea, the camel drivers reloaded the camels. Unexpectedly, we also had to give food to the drivers who had brought nothing with them. Angrily they told us that they had been ordered by the tahsildar to take us and had had to leave on a

moment's notice with no time to prepare food. We observed later on, however, that they were often chewing on fresh dates and they stopped frequently to take milk from the camels.

We then mounted our camels for the long plodding journey to Sutkagen Dor. The first stage of the day's travel was a three-hour crossing of the wide, sandy coastal plain. Upon reaching the first pass through the coastal mountains (Gar-i-Kuh Mountains), we treated ourselves to a fifteen-minute, water-and-jelly-bun break. There, we got our first look at the telegraph line that provided the basic communication link between the isolated communities along the coast.[10] The metal poles and shiny wire were obviously new, but they conjured up visions of Kipling's Kim. If it was not this actual line, it was one similar to it that the British stretched from Bombay to Baghdad more than a century ago—a single, thin, umbilical cord connecting Britain with the "Jewel in the Crown"—India.

The next hour's travel took us through a Hades of black, clinker-like spoil from some infernal blast furnace. In this Hades we occasionally came upon small oases with clumps of acacia trees and date palms. Overall the terrain was much more difficult than the maps and air photos had indicated. At 1:00 we stopped at one of the oases for a lunch of rice and potato curry and tea in the welcome shade of the trees.

It was almost 4:00 before we felt rested enough to go on and had the camels reloaded. Our camel drivers predicted another six hours to the Customs Post on the east side of the Dasht. The terrain did not improve. Following the westward extension of the Talar Range, we rode on with virtually no break for six hours. The steady forward-backward-sideways rocking of the heavily laden camels, and the intense heat, lulled us into brief moments of sleep. For those of us riding double that was safe enough, but Captain K—, because of his ample size, was riding alone. At one point we were snapped back to consciousness by a loud metallic noise followed by shouts from the camel drivers. The captain had nodded off and dropped his shotgun—rather unmilitary behavior. He was embarrassed, but relieved that the gun had not discharged when it smashed onto the rocky trail.

At the end of the six hours of riding we were disconcerted to hear from the drivers that we were still at least an hour from the Dasht. We, including the camel drivers, were exhausted and took a short break before continuing. Finally, at 11:00 P.M. we arrived at the Customs Post on the east bank of the Dasht Valley. The camel drivers wanted to return immediately to Gwadar, but we insisted on them taking us to Sutkagen Dor the next morning.[11] We were not successful in arousing anyone there, so we assembled our cots and settled in under the stars for the night.

Friday, October 7

We awoke at 6:00, drenched with dew and bitterly cold. Noor had already been up for an hour or so and had freshly cooked chapattis (small, round flat breads similar to tortillas except they are made with corn instead of wheat flour) and hot tea ready for us. Mughal and I headed out immediately on foot for Suntsar, the local administrative center, to inform the officials of our presence. Our camel drivers said it was about one mile awayon the west side of the Dasht Valley. It proved to be more like three miles. The Dasht, the largest river draining Makran, was completely dry at this time of the year. It had an impressively wide bed—about 200 yards across—and banks up to 25 feet high.



Plate 8 From Gwadar to Sutkagen Dor

Suntsar was not a village at all—no bazaar, no nothing except the fort-like, white-plastered headquarters of the Makran Militia.[12] The camel-riding militia was a product of British colonial days when camel corps were in charge of maintaining law and order in desert regions. Here especially they patrolled the border with Iran for smugglers. They rode magnificent whitish camels with brightly colored saddles and reins. I remembered seeing such militia in Jordan but had not expected that someday I would have to rely on them for personal protection.

We were cordially received by the commander (*subadar*), named Jahangir, who agreed to round up some workmen and to allow us to draw on some of the Militia food stores. Otherwise, there were few supplies available between there and Jiwani. Locally, the sparse population—said to be about four persons per square mile—grew small quantities of beans, lentils, and corn but that was about all. Fortunately, the Militia's monthly supply run to Jiwani was the next day. We put in an order for small quantities of flour, sugar, salt, tea, and dates. Jahangir assigned a man to bring us water twice a day.

As for our intended destination, Sutkagen Dor, considerable discussion was required before the militiamen recognized what we were looking for. They brought in an elderly, wizened gentleman who recalled working for Sir Aurel Stein when he excavated at the site in 1928. When we asked him which direction it was to the site, he performed a ritualistic act that we were to encounter innumerable times through the years in the remote regions of Afghanistan and Pakistan. He raised his head, squinted his eyes, lifted his right arm, with his palm down, and raised and lowered his index finger slowly in the direction requested.

At the insistence of Jahangir Baba—as almost all elderly men could be called—he walked us to the site. At first glance, it looked just like the barren, uplifted ridges that we had seen all the way from Gwadar. We would have had considerable difficulty locating the site without his guidance. He showed us where Stein had camped, just to the north of the huge citadel. After we had noted the exact location of the site on our map, we walked back to where we had left the rest of our party, reaching them at about 11:00. The temperature was already near 110 degrees. Although we were baked out, we wanted to shift our supplies to the site and set up camp.

One of our camels had disappeared and Captain K— had taken another one to go over to the militia post. So we piled everything on the remaining six animals. Barbara and Noor rode, while Cuyler, Mughal, and I walked.

We selected a small wooded area about seventy-five yards north of the site, near where the elderly guide said Stein had camped. Although there were numerous trees and bushes, the foliage was too sparse to provide much respite from the sun (plate 9). Exhausted and not at all acclimatized to the heat, we rested until 4:30. In the meantime, Captain K— had returned from Suntsar where he had made arrangements to ride in the militia supply truck to Jiwani at 2:30. We bid him a puzzled farewell, still uncertain as to why he had come with us in the first place.

Sufficiently revived by 4:30, we turned our attentions to practical matters concerning our camp. First, the question of water. The man assigned by the militia to bring water twice a day was one thing, but we wanted to have control over another source if possible. We would be needing a steady supply of water to rinse the pottery that we anticipated collecting during our investigation of the site. Mughal, Cuyler, and I walked over to the riverbed where we found a rough hole. It had been dug to provide water for the few head of cattle that roamed in the area. It was a nasty-looking affair, a couple of feet deep with a few inches of muddy water in the bottom.



Plate 9 Camp at Sutkagen Dor

The three of us, using a metal cup and a canvas bucket, were able to bathe on the spot before temporarily exhausting the groundwater supply. We tried to deepen the hole, but without some sort of casing for support, the sandy sediments just collapsed into the hole. Eventually we succeeded in filling the bucket and carried it back to camp. I poured as Barbara showered behind a tree.

The water tasted really quite good even though full of a clay-like muddy sediment (plate 10). Nonetheless, we already had established the rule with the cook that no matter where water came from, no matter how clean it looked or fine it tasted, it was to be boiled before using in the kitchen.

The camp consisted of two tents with sewn-in floors and mosquito-net doorways. For sleeping, we had inflatable rubber mattresses and rather ingenious, but difficult to assemble, metal-frame cots. Noor preferred to string up a hammock between the two trees that also provided some shelter for his kitchen. He had insisted that he did not want elaborate equipment for his kitchen, so we brought only basic metal and plastic pots and pans. His experiences with the British Army in the deserts of Egypt had conditioned him to know how to run an efficient field kitchen. He set out immediately to make his own charcoal. To our amazement, he presented us with a freshly baked sponge cake for desert that first evening at Sutkagen Dor. We felt comfortable about having chosen him.

Before sunset, we made our first visit up onto the site (plates 11 through 14). Given our excitement about actually having reached Sutkagen Dor, we felt a curious disappointment as we had our first look at the rectangle of steeply sloping, sandstone outcrops. They were thickly covered with pottery sherds but showed little trace of architectural remains.

A relatively flat area to the east and north of this "citadel" had the barest remains of what might have been Harappan house foundations. The surface was badly pitted and eroded though, and, in the few exposed sections, we could see no evidence for stratified architectural remains. Perhaps that was the area where Major Mockler had done his amateur diggings a century ago. We returned to camp feeling somewhat discouraged. Knowing how exhausted we were, we reassured one another that the next morning we would be more receptive to what the site had to offer.

Saturday, October 8

Our first night at Sutkagen Dor was interrupted frequently by the mournful howls, the barks and yips of jackals who approached our camp hoping to steal food from us. There was something about the sound of them that is difficult to describe. One has to experience it. Since all our food supplies, except the live chickens, were stored in metal trunks, the gastronomic intentions of the furry beasts were disappointed, at least for the first night

It was uncomfortably cold upon rising. After breakfast we reread, together, Stein's and Mockler's published accounts of the site. We then set out to make our initial surface survey of the site. That included identifying features on Stein's plan of the site and those specific parts of the site described by Mockler and Stein (figures 4 and 5). It was a difficult and confusing site with natural rock popping up at every turn. Numerous traces of stone wall foundations had been exposed by erosion, especially to the north and south of the huge rectangular citadel enclosure.

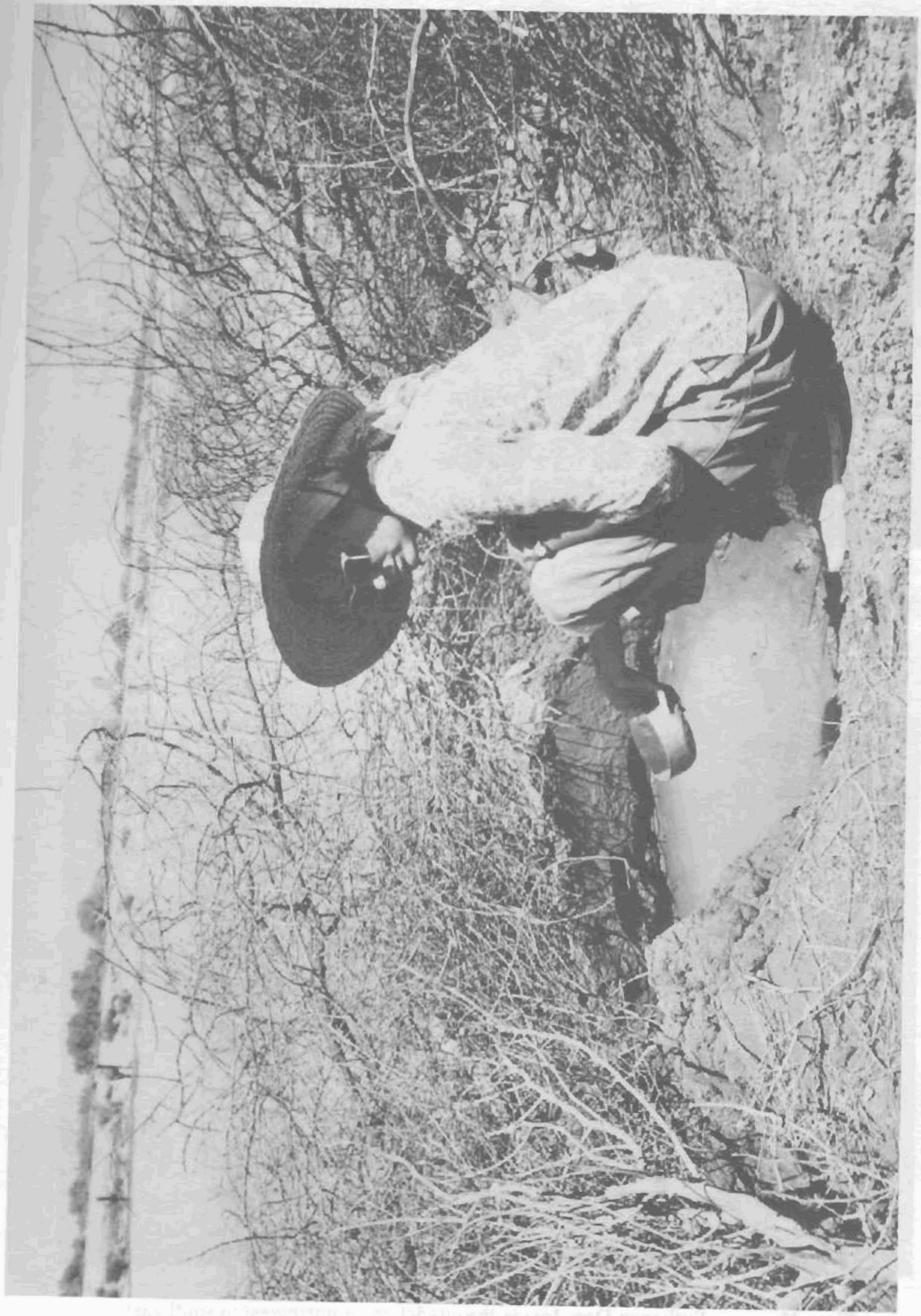


Plate 10 Barbara at water hole in dry bed of Dasht River, Sutkagen Dor



Plate 11 Sutkagen Dor: General view from the south

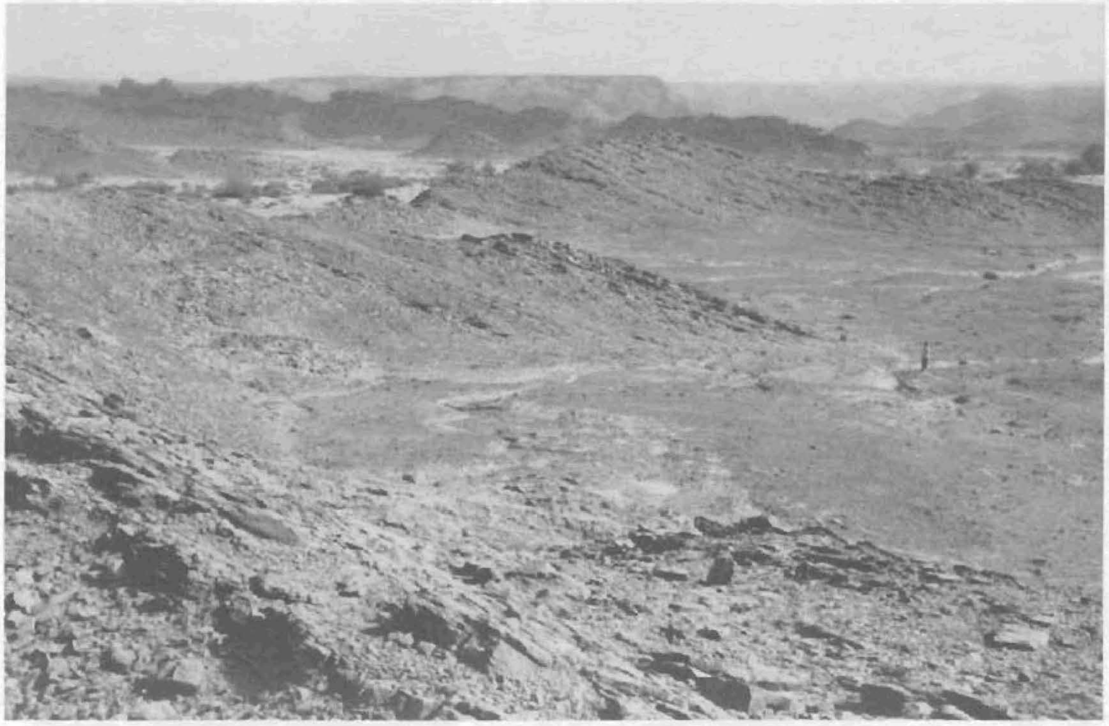
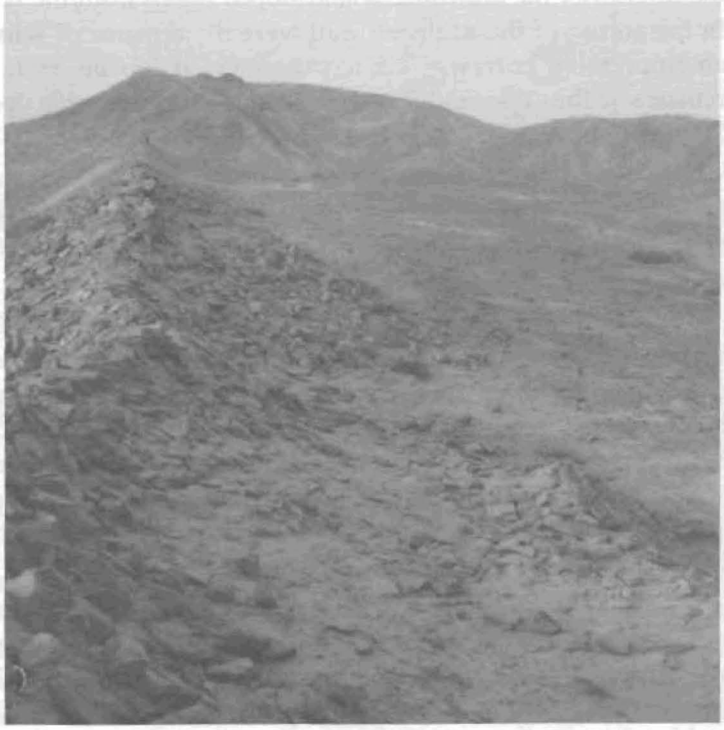


Plate 12 Sutkagen Dor: Inside the citadel, from northwest to southeast



Plate 13 Sutkagen Dor: Inside of citadel, from southwest to northeast

Plate 14
Sutkagen Dor: Looking north along western citadel wall—Trench A-A/1 visible at base of natural outcrop



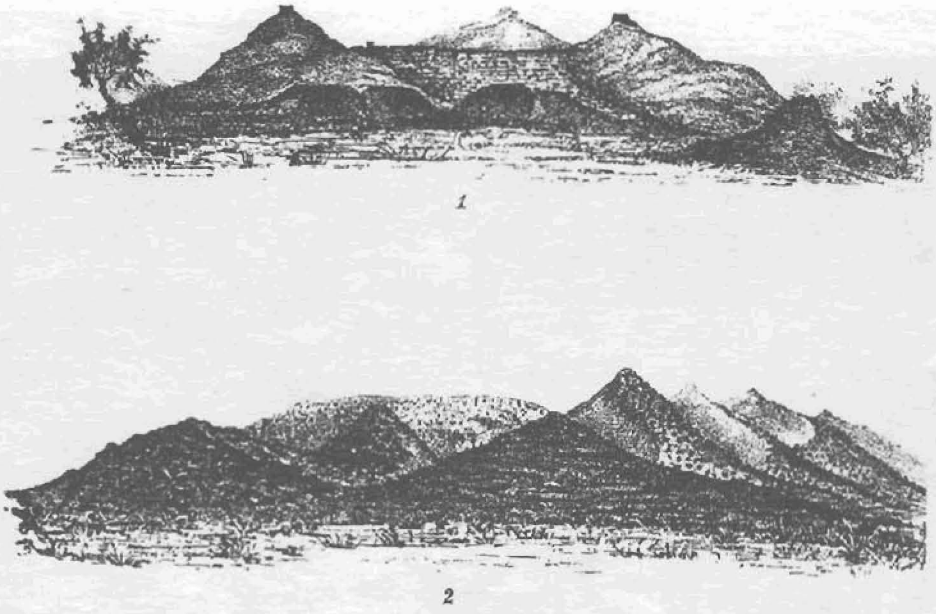


Figure 4 Sketches of Sutkagen Dor in the 1870s (Mockler 1877)

Roughly shaped stones were used in the construction of massive walls still preserved along the west, south, and east sides of the citadel. The northern limit of the enclosure was formed basically by the natural rock outcrop. The depressions between the highest points had been filled in with rocks and, we surmised, with mudbrick or pise walls and platforms. Harappan period sherds paved the surface of the interior of the enclosure which sloped down from the northeast to the southwest. In the corner of the southern wall were the remains of what appeared to have been an impressive entryway. Unfortunately, it looked as if much of the habitation remains within the citadel had washed out through this opening over the centuries. The intended test excavation would address this question.

Standing on top of the citadel, we observed that the plain to the northwest and northeast was covered by vast amounts of silt. We asked the militiamen about this. They said that two years before, the Dasht had overflowed its banks and the entire plain had been under two feet of water.

That afternoon we were visited by the tahsildar of Jiwani who was inspecting his region of jurisdiction. We had a helpful discussion with him concerning supplies, travel, and the locations of other possible archaeological sites. He presented us with a freshly killed duck from a pond some three miles south of Sutkagen Dor. It was a welcome addition to our Spartan diet, although we had been able to make random purchases from camel caravans that passed by our camp of such items as reed mats and dates. The supplies we had ordered from Jiwani arrived late in the afternoon.

At 4:00, Mughal, Cuyler, and I went to the citadel to select a location for test excavations. Surface traces of what appeared to be walls were seen at only one place within the citadel—some ten meters inside its western wall. We selected the spot for our Trench A, and it was agreed that Mughal, assisted by Cuyler, would be in charge of the excavation.

The afternoon heat was stifling and had a debilitating effect on our efforts to sustain physical activity. We were hindered even more by the myriad of flies that

swarmed ceaselessly around any exposed skin. Nevertheless, after a simple but delicious dinner, we retired with a sense of euphoria and excitement. The next day we were to begin our own excavations at one of the most interesting and enigmatic Harappan sites. Would we uncover new evidence relating to the question of commercial and cultural contacts between the Indus Valley and the Near East? Would we be able to prove the identification of Sutkagen Dor as being either Magan, Meluhha, or Dilmun?

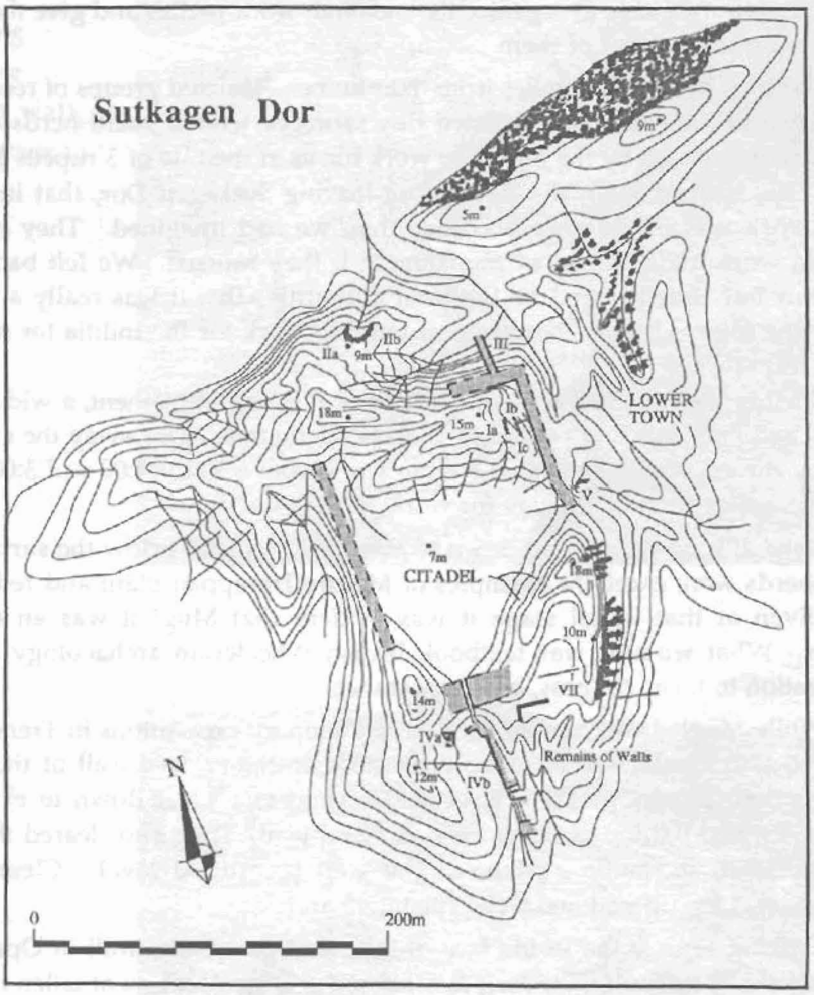


Figure 5 Plan of Sutkagen Dor: updated from the original published by Stein (1931)

Sunday, October 9

The jackals came right into camp in the middle of the night, certainly after our chickens which were in baskets suspended from one of our kitchen trees. We were awakened by Noor's angry shouts which were instantly effective in scaring off the animals. They did prove to be cowardly beasts in spite of their initial aggressive approach. Noor was used to such incursions in desert camps and was more angry at being awakened than afraid of the animals. The day before, while preparing lunch, he had looked up and was startled to see a four-to five-foot long snake wrapped around a branch just a few feet above the pot of cooking rice. He dispatched it and disposed of it before we had a chance to identify it, but he tried to assure us that it was not poisonous. Our encounter with poisonous snakes was to come when we reached the coast.

The first day of excavations got off to a late start. The local laborers promised by the tahsildar and the militia commander did not arrive until 9:30. Twenty-one bedraggled and somewhat disgruntled men arrived in a group. Their clothes were a helter-skelter mixture of traditional Baluchi baggy pants, dirty voluminous turbans, and cast-off U.S. Army dress uniform jackets, complete with hash marks and unit patches. Most of the men were barefoot; a few had open sandals made of strips of leather attached to soles cut from old rubber tires. They spoke only Baluchi with which none of us was familiar. Mughal with his Urdu and Cuyler with his Persian were able to organize the men into work parties and give them some idea of what was expected of them.

The men had walked miles from their homes—isolated groups of reed houses where they and their families operated tiny farms or tended small herds of cattle. They had been ordered by the militia to work for us at the rate of 3 rupees (63 cents) per day. We learned later, the day before leaving Sutkagen Dor, that in fact the order to work was much more insidious than we had imagined. They had been ordered to work under threat of punishment if they refused. We felt badly upon hearing this but were assured by the local authorities that it was really a financial break for the men. Usually they were ordered to work for the militia for no pay at all!

Most of the men had brought their basic farming implement, a wide-bladed, short-handled hoe. We had picks and baskets for them to carry away the excavated dirt. They agreed, starting the next day, to work from 6:30 to 11:00 and 3:00 to 5:30, leaving the hottest part of the day for rest.

Mughal's men excavated down to about half a meter below the surface. The pottery sherds were excellent examples of Mature Harappan plain and red slipped wares. Even at that initial stage it was evident that Mughal was an excellent excavator. What we saw was textbook British Wheelerian archaeology at work: great attention to form, tidiness, and appearance.

While Mughal was supervising the preliminary excavations in Trench A, we had agreed that Cuyler should devote attention to the eastern wall of the citadel. At the location called Operation B, he had several men clear down to expose the inside surface and flat top of the stone peripheral wall. They also cleared the debris in a strip down the outer surface of the wall to ground level. Clearing, not excavation, was the operational word (plates 15 and 16).

Digging against the inside face of the stone peripheral wall in Operation B was unexpectedly difficult. The surface consisted of large numbers of fallen rocks and the soil, much of what must have been decayed mudbrick from the structures that once crowned the natural outcrop, was like cement. If we broke the blades and points of our tools at the rate we had done the first day, we would have been out of the excavation business in just a few days.

Jahangir, commander of the militia, visited us during the midday break with several of his camel-mounted militiamen. It was comforting to have his friendship and assurance of assistance in case of need.

While Mughal and Cuyler were busy starting their operations, I walked again over the area to the east of the citadel where Mockler had dug. At other Harappan sites such as Mohenjo Daro and Harappa, this would be the Lower Town or residential area. The scene was puzzling and initially disappointing. Beneath the

Plate 15

Sutkagen Dor: Operation B, eastern wall of citadel, inner face, showing probable late (historical?) wall on top of Harappan stone wall



Plate 16

Sutkagen Dor: Operation B, eastern citadel wall, sloping exterior face



surface layer of innumerable Harappan sherds, scattered remains of what appeared to have been building foundations could be seen, but nothing was visible in the eroded sections beneath the thin surface deposits except silt. I checked the sides of the dry streambeds and deep erosion gullies and found no indication of human occupation in the three meters of exposed alluvial deposits. Was it a one-period occupation that left only a thin scatter of remains or had all the structures simply been destroyed and washed away over the millennia? In retrospect, given the recent and current research especially at Mohenjo Daro and Harappa, I may well have been seeing remains of mudbrick or pise platforms and simply did not recognize them. Massive platform construction is now known to have been the initial building phase at some Harappan sites.

On the surface, in the small area where building foundations were visible, I did find a complete copper concave disc (plate 69; object #3), a clay bangle, and Harappan slipped and painted pottery, all in excellent condition.

I then walked the circuit of the stone walls surrounding most of the citadel. The opening in the southwest corner was certainly a major gateway (plate 17). The solid stone structures on both sides of the narrow passageway measured twelve meters thick according to my preliminary calculations.

Monday, October 10

It did not cool off last night making for many restless hours. And the jackals tried to invade our camp several times, each time to be scared off by Noor. Most of our workers didn't arrive until 8:00. We appreciated that they had to walk several miles, didn't have watches, or even much positive incentive to come at all, so we had to allow for that.

Cuyler continued clearing the outer face of the eastern wall to reveal a gently sloping, stony surface. He also set some men to doing a small trench out on the flats to the east of the citadel (Operation C). Just as I had observed the previous day in the erosion sections, the trench revealed nothing but seven superimposed layers of barren river silt. He stopped digging at a depth of 2.60 meters beneath the level of the stone foundations on the surface. About five meters away, between this trench and the eastern base of the stone citadel wall, an erosion gully had exposed a line of what might have been stone foundations. Possibly Cuyler would have time to investigate that area.

Mughal's trench was down to more than a meter deep by the end of the day. At the northern end, he had come down on what appeared to be bedrock. At the southern end, his trench stopped at the face of an east-west stone wall with six courses *in situ*. On the north side of the wall, he encountered a layer of baked bricks of the size reported by Mockler from the "outer town,"[13] part of what seemed to be a paving. It was associated with a stratigraphic level beneath the stone wall, so we had definite evidence of at least two occupational phases.

That was well and good, but the trench, about twenty-five feet from the inner face of the massive western peripheral wall of the citadel, was isolated. After the workers left for the day, Cuyler and I spent about an hour looking at the trench and discussing the significance of the initial discoveries in it. We agreed that it would be good archaeology to expand the excavation into an L-shaped trench with the east-west part extending to the inside face of the peripheral wall. That would help us ascertain whether the stone peripheral wall belonged to the Harappan period, as we felt almost certain it did, or whether it was constructed at some later time.



Plate 17 Sutkagen Dor: Gateway at southwest corner of citadel; looking east along southern wall

After dinner we had a lengthy discussion with Mughal concerning the matter. He was reluctant to give his permission. Our license stated specifically that we were permitted to excavate only one trench at any given site. Fortunately, his professional sense—and curiosity—prevailed over his bureaucratic orders, and he agreed to the necessity of expanding the trench. We were pleased and relieved at this successful example of opting for expediency in a situation where we were not certain if we would ever have another opportunity to work at Sutkagen Dor.

Tuesday, October 11

The excavations continued as scheduled. Nothing significantly new was uncovered, but we were getting a better sense of the state of preservation of the occupational remains. Barbara labored for much of the oppressively hot day washing the excavated sherds in plastic buckets, being as parsimonious as possible in using our precious water supply. After washing and drying them, she labeled each sherd with India ink and entered them consecutively into our field register. I spent most of the day surveying the visible remains of the site and entering the compass readings and measurements onto our site plan. My survey was admittedly primitive for such a large site. I had only a Brunton "pocket" compass and tapes. Nonetheless, over several days I checked and rechecked angles and measurements until I felt confident that I had achieved an acceptable level of accuracy.

Some of my measurements did not agree with those taken from Stein's map. I rechecked those again with the same results I had obtained earlier. For example, I measured 103.3 meters for the east-west width of the enclosed area on the citadel whereas his plan showed about 117 meters (128 yards). He described the width of the gateway as being 8 feet (2.45 meters) whereas the actual opening is clearly only 1.75 meters wide. Apparently the base of the walls forming the gateway were not exposed when Stein was there, and he was measuring what appears to have been a secondary structure on top of the original wall. Whatever the exact measurements, there was no doubt that we were working in the largest walled citadel known at any Harappan site—equal in area to four football fields.

About 4:00, a massive dust storm blew in from the south. It was spectacular to behold—a huge cloud of brown dust rolling toward us. The storm persisted until about 7:00 and then cleared away as quickly as it had appeared. Thank goodness it cooled the place off a bit.

Wednesday, October 12

Mughal's expanded trench—1.50 meters wide, designated A/1—has been extended toward the inner face of the citadel wall (plate 18). He encountered a solid mudbrick structure, possibly a revetment or platform, built against the inner face of the stone wall.

Cuyler dug a second trench in the "lower town" where we had earlier noticed wall foundations (we gave it no Operation number). The results were the same as he had gotten in Operation C, but even more convincing. He went down through five meters of barren river silt and then suspended work.

We had also located one of Stein's trenches (Ia) inside the northeast corner of the citadel. Cuyler cleaned it out, straighted and drew the sections (figure 30; Operation D). The steeply slanted strata, containing pottery sherds and organic debris, added credibility to our hypothesis that mudbrick structures had existed on top of the outcrops. At the end of the day we suspended that operation also and laid-off twelve of our twenty one workers.

After work, we talked with one of the local men who had come to visit Noor. We asked him about river floods. He told us that flooding occurred frequently but not annually. The water usually got ankle deep, but he remembered one year when the water got up to his shoulders. He said that farming took place in the valley only when there was enough rain to allow the small fields to be flooded but that practically nothing grows in the immediate area on a regular basis. For money they cut down the scattered trees and take them to Gwadar or Jiwani to sell as firewood. No pottery was made locally; it was all imported from Karachi and sold in Jiwani and Gwadar. We recalled seeing hundreds of painted Sindi pottery vessels on the boat that had brought us from Karachi.

Thursday, October 13

The night had been unusually cool, and we awoke to a heavy mist blowing in from the southwest. Everything was drenched. When the mist burned off at about 8:00, the day became more hot and humid than usual. It was one of our most uncomfortable yet, and the flies were even more numerous.

Mughal's Trench A-A/1 yielded some interesting new information. The mudbrick structure against the inner face of the stone wall was made of large bricks, some fifty centimeters long, and containing no straw or other temper for added strength. The relationship between the mudbrick structure and peripheral wall with the two building phases revealed in Trench A was still not clear.

Cuyler and I spent the afternoon taking more measurements on the citadel. Barbara had been helping us with the measurements in the morning, but she ran into a potentially serious problem. We were at the southern edge of the site, outside the gateway, when suddenly she came down with violent stomach pains. She was perspiring profusely and was on the verge of fainting. We had difficulty carrying her back to camp in the intense heat. We treated her immediately for heat exhaustion and gave her an antibiotic for the stomach pains. She rested for the remainder of the day and was feeling considerably better by evening. She could have easily gone into heatstroke, and we might have lost her.

Cuyler and I had noticed what seemed to be large stone piers or bastions about mid-point on the interior of both the east and west citadel walls. Ideally, we would have cleared the stone rubble from the two areas to learn more about the structures, but we had neither the time, resources, nor permission to pursue this problem.

As we had grown daily more familiar with the site, our initial disappointment vanished. We began to realize the many intriguing problems about this site that should be investigated. Would another team ever come out here to work before the inside of the citadel was totally washed away?

We were compelled by budgetary and time limitations to dismiss five more workers and to restrict our investigations to Mughal's Trench A-A/1.

Noor continued to surprise us with what he could produce in his open air kitchen. Our meals were nutritionally adequate but somewhat boring. On this particular day, we were able to buy one pound of fresh mutton. Meat was very scarce because it was difficult to get enough buyers at one time to make it worthwhile to slaughter an animal. Also, we had been able to purchase ghee (rendered butter) from some of the camel caravans, but it was as expensive as it was in Karachi. We continued to buy dates from passing caravans. They were plentiful and cheap, but one had to be especially careful to examine each date before eating it. Because they were transported on camel back in large, unwrapped bundles, they were covered by

flies. Makrani dates are always highly praised, but personally I didn't think they tasted as good as the dates I had eaten in Iraq.

Up to that point, we had not been able to get eggs. Our breakfasts consisted of chapattis fried in ghee, one-third of a jar of jelly, dates, and instant coffee. Lunch usually consisted of rice and beans, or a simple curry, with chapattis, dates, and tea. For supper we had rice with chicken, or mutton when available, chapattis, dates, and tea. The taste of the tea was greatly enhanced by adding a spoonful of Ovaltine per cup. We were saving our supply of canned meats for the travelling days ahead.

Friday, October 14

During the morning I worked more on the site plan. Mughal's Trench A/1, which we had thought was practically finished when he hit what seemed like bedrock, took a wonderful turn for the better this morning. He went down through the rocky stratum and found another occupation level below. We rehired three workers (total of seven now) and resumed excavation in the entire trench. The pottery coming from the excavation was still what we recognized as "Mature" Harappan. Whether there would be any significant differences throughout the sequence remained to be seen after the entire collection could be washed and studied. Certainly we had not encountered any recognizable painted pottery from inland Baluchistan except possibly for one of two sherds found on the surface of the site.

Cuyler's operations were completed, and he moved over to Mughal's trench to assist in drawing the sections exposed in the excavations.

I explored in more detail than previously around the outside of the citadel and found what appeared to be a pier or bastion outside the eastern wall. That was especially interesting because it was located in the same position along the wall as the stone structure that Cuyler and I had found associated with the interior side of the wall. The presence of those solid stone structures on each side of the main citadel wall suggested that they might have been foundations for towers. The site got more complex, and more interesting, the more familiar we became with it.

Later in the afternoon, I took black-and-white photographs of the site. The light was ideal for relatively close-up shots, but too much dust was blowing around for clear, overall pictures of the site.

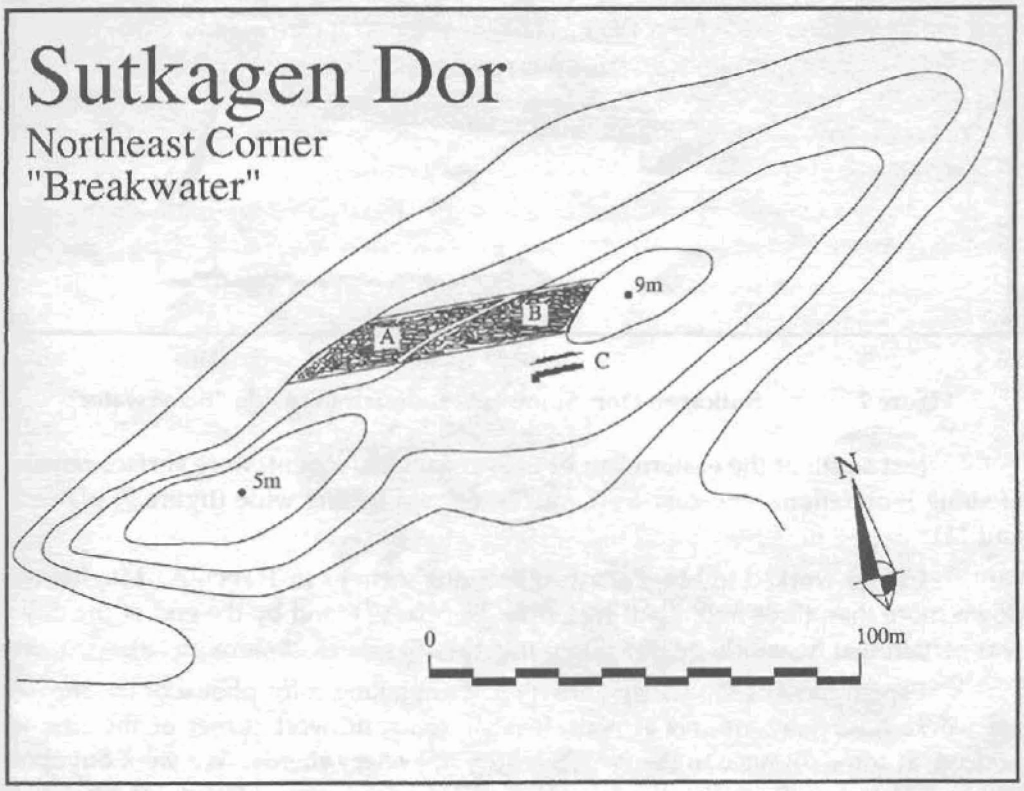
Barbara was feeling better but still had stomach pains and was exhausted from the previous day's experience.

We had only a few more days that we could devote to Sutkagen Dor before we would have to get on with the survey.

Saturday, October 15

The entire night had been refreshingly cool, but that made the daytime temperature seem even hotter than usual. I spent all morning walking around the areas immediately to the north and northeast of the citadel. The surfaces clearly had been disturbed by human activities. There were hummocks of what, superficially, looked like silt but possibly were the remains of mud platforms. There were also traces of what looked suspiciously like old excavation trenches. I felt badly that we were a century too late in getting to Sutkagen Dor. Major Mockler had reported recognizable architecture preserved to the north and east of the citadel. He must have dug extensively in those parts of the site and disrupted the thin veneer of Harappan architecture that had survived the millennia of erosion.

One impressive feature was still preserved. At the northeastern limit of the mounded area of the site, drawn on Stein's plan, were two, low natural rock outcrops about 120 yards (110 meters) apart. The western one was 17 feet (5.2 meters) high and the eastern one 29 feet (8.9 meters) high. They were connected in an east-west direction by a sloping embankment of rounded river boulders preserved for a length of about 130 yards (119 meters) (plate 19; figures 6 and 7). This embankment was certainly a man-made feature. And extending even farther from the western outcrop to the northern edge of the citadel itself, was an alignment of raised ground. We all examined the area and agreed that this might well have been part of a peripheral wall protecting the northern, lower parts of the site from floods. Then we let our imaginations have free reign. It was not at all impossible that the tidal waters in the valley could have reached as far upstream as the site in antiquity. Could that feature have been not just a flood protection wall but the remains of part of a dock or harbor for small boats (figure 31)?



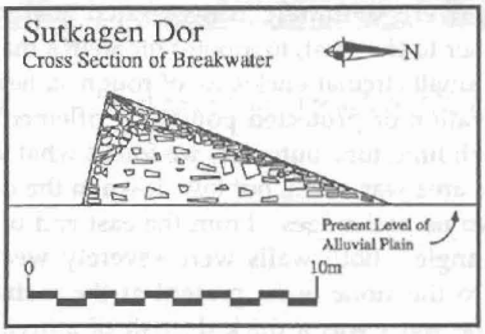


Figure 6

Sutkagen Dor: "Breakwater" at northern corner of site

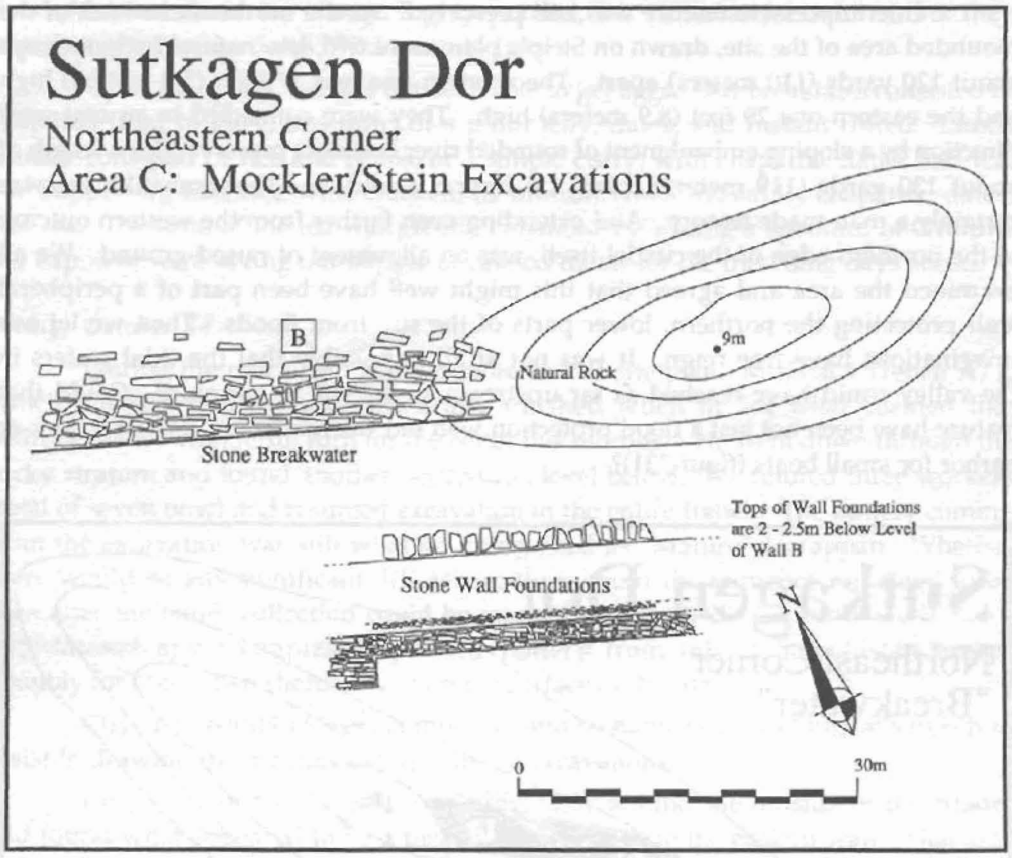


Figure 7 **Sutkagen Dor: Stone wall foundation inside "breakwater"**

Just south of the eastern half of the stone embankment, were surface remains of stone foundations, one east-west wall being two meters wide (figure 7; plates 20 and 21).

Cuyler worked in Mughal's area drawing sections in Trench A. Mughal was down more than three and a half meters in Trench A/1, and by the end of the day it was certain that he would be down into natural soil (plates 22 through 29).

I spent most of the afternoon with Barbara taking color photos of the site. As we worked our way around at plain level to the southwest corner of the site, we noticed, at some distance to the west, a scatter of pottery sherds. We went out about 200 to 300 meters from the citadel and found a heavy concentration of Harappan sherds on the surface. We thought first that they were just sherds washed down from the citadel, but they were definitely concentrated just north of an east-west sandstone ridge. Farther to the west, to a point on Stein's map 530 paces west of his northwest *"sangar"* (a small circular enclosure of rough stones used during relatively recent times as observation or protected points for riflemen) on top of the citadel, between two steep, high limestone outcrops, we found what was certainly a primary archaeological site. Its area was small, but low down in the defile an east-west stone wall connected the two natural ridges. From the east end of the wall, another wall ran south at a right angle. Both walls were severely weathered, but they were typologically related to the stone walls present at the main site of Sutkagen Dor. Just to the north of the walls was a thick deposit of alluvium covered with good examples of Harappan pottery. Possibly the site was some sort of an outpost for Sutkagen Dor. Unfortunately, we did not have time to investigate it further.

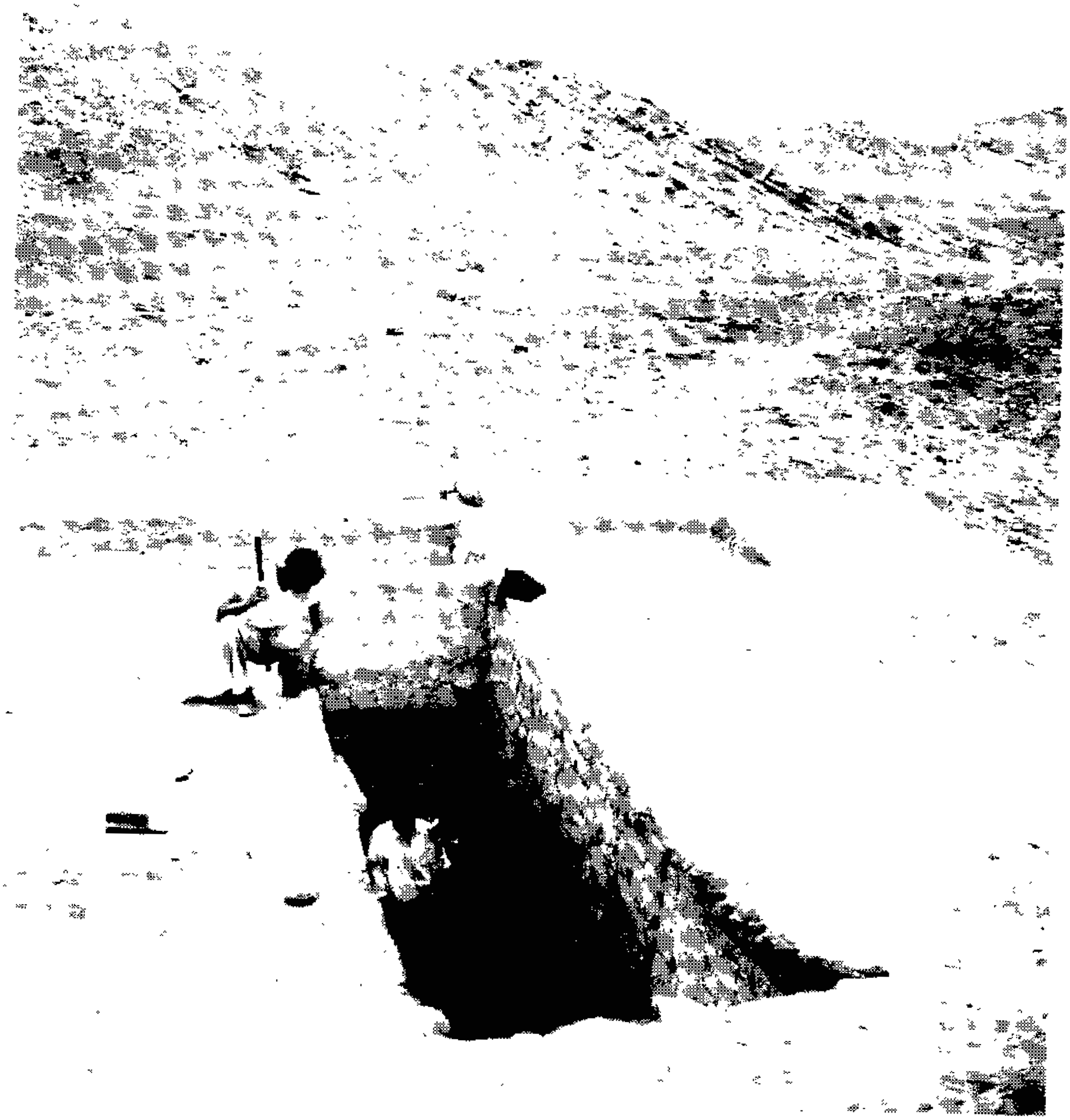


Plate 18 Sutkagen Dor: Trench A-A/1, looking east



Plate 19

Sutkagen Dor: Stone embankment between natural rock outcrops at northeastern corner of site, looking west



Plate 20 Sutkagen Dor: Stone wall foundations inside northeastern corner of the site, just south of the east-west stone embankment, looking to southwest with citadel in background

Plate 21

Sutkagen Dor: Stone wall foundations inside northeastern corner of site; inner face of east-west stone embankment at upper right of photo

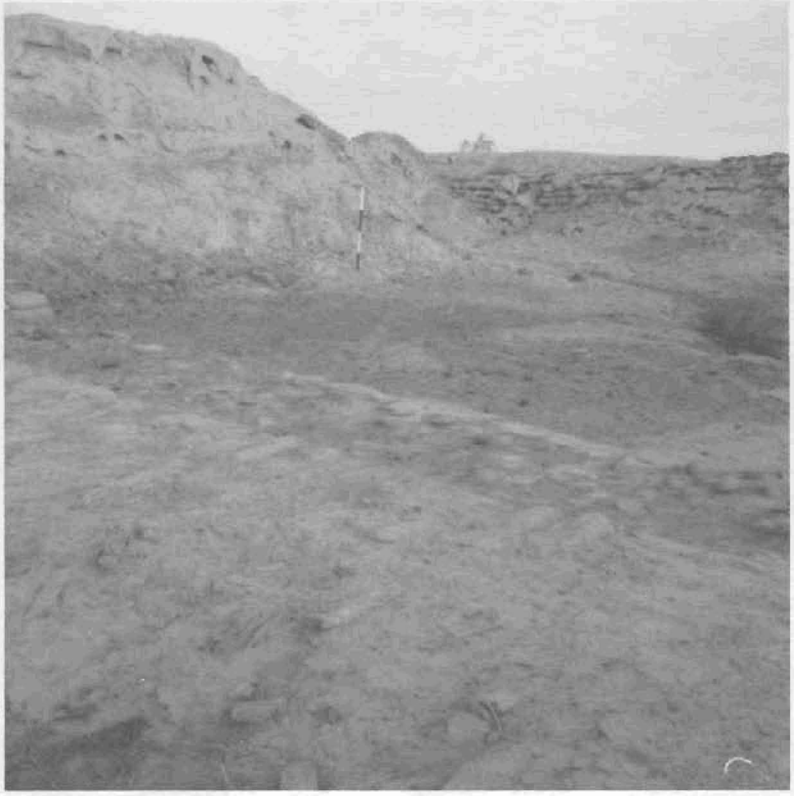


Plate 22

Sutkagen Dor: Trench A-A/1, looking west to inside face of western stone citadel wall (The trench cuts through the mudbrick structure against the face of the stone wall.)

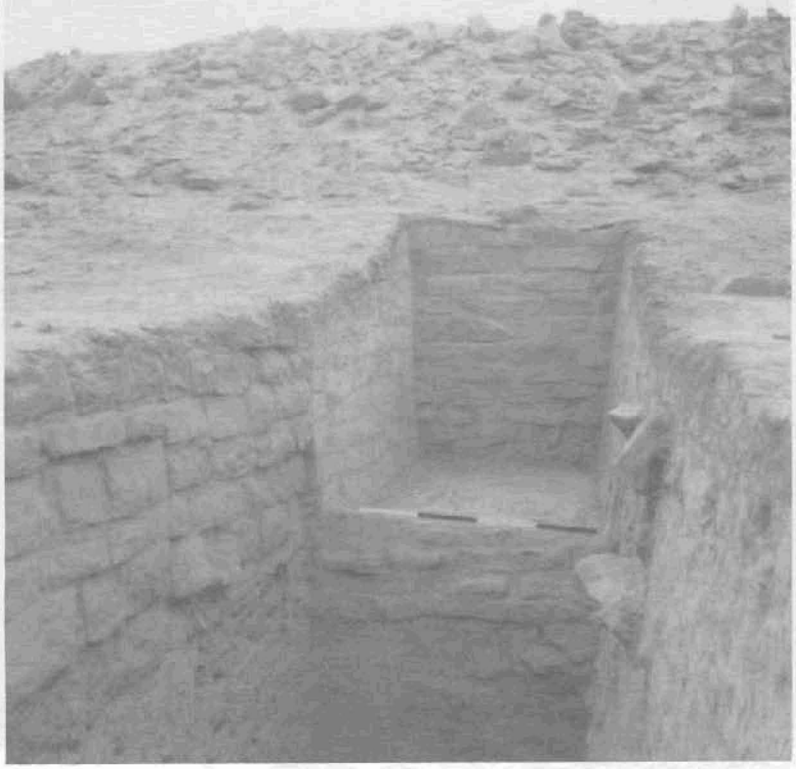




Plate 23

Sutkagen Dor: Trench A/1 section through the mudbrick structure against the inner face of the western citadel wall



Plate 24

Sutkagen Dor: Trench A/1 looking west through mudbrick structure to inner face of western citadel wall; natural soil at bottom of trench

Plate 25

Sutkagen Dor: Trench A/1 looking east to Trench A; natural soil at bottom of trench



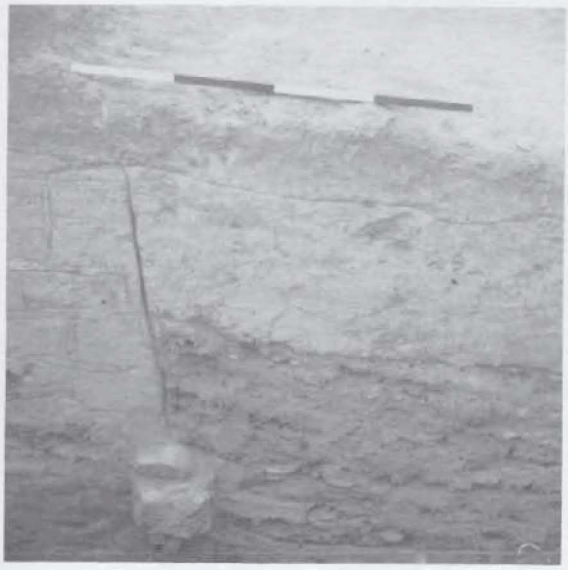


Plate 26

Sutkagen Dor: Trench A/1 north section showing stones placed against base of mud-brick structures at Level 6

Plate 27

Sutkagen Dor: Trench A/1 south section showing blocked passage way, Wall 2A between Wall 2 and mudbrick structure against inner face of the western citadel wall





Plate 28 Sutkagen Dor: Trench A looking north showing scattered stones of Level 1 (in foreground) and late, post-Harappan wall at upper end of trench



Plate 29 Sutkagen Dor: Trench A southeast corner; Stone Wall 2 on right. Floor Level 6 with fired bricks imbedded in clay surface

Sunday, October 16

All night the jackals howled outside our tents against the background of distant drums coming from some remote village, probably for a wedding ceremony. In addition, the night had been depressingly hot and stuffy. Then at sunrise, hoards of flies invaded our canvas-shrouded privacy.

I took photographs of sherds during the morning, while Cuyler took over the work in Trench A/1 and Mughal did paperwork. Barbara continued cataloging the excavated sherds. By noon, Cuyler had reached the bottom of the inner face of the western citadel wall. The wall was constructed on natural soil and stood to a height of 3.30 meters. So, except for cleaning up the excavated sections and drawing and photographing the trenches, our work at Sutkagen Dor had to be brought to a close.

At 4 P.M. Mughal and I walked over to the militia post to pay our respects to Commander Jahangir and to invite him and his junior officer for dinner on the coming Tuesday. We arranged through him to hire seven camels for Thursday morning, the twentieth.

We spent about forty-five minutes with him asking about local life and conditions. He told us that what rain they have falls from November to January and that often the Dasht floods. But even when floods come, in only two or three days the waters disappear from the surface. The few local people were illiterate farmers who raised beans, some lentils, and a little corn. Everything else was imported. There were no stable villages; their locations were constantly shifting, usually in response to the availability of water. All the men had rifles and would come to the aid of the small militia force in times of trouble.

Before Partition in 1947, under British rule, local chiefs in Makran and in southeastern Iran were constantly feuding and the militia had a peace-keeping mission. But in recent years the main job of the militia has been to patrol the border to prevent smuggling. What a futile task! The open border areas were beyond the capabilities of a dozen camel-riding militiamen to survail. From the top of Sutkagen Dor you can see miles into Iran over virtually a featureless alluvial plain with unlimited room for individuals or small groups to maneuver. But, on the other hand, no sizeable land force could approach the border without being detected. The dust alone would signal any such movement.

As for the continuation of our survey down the Dasht Valley to Jiwani, Jahangir told us that the journey was about thirty-five miles by camel and fifty to fifty-five miles by vehicle. The first stop on the map was Kalatu. He said the remains of a fort of uncertain age were there. Beyond that was a dot on the map called Gabd. We would find no village or bazaar there, but he assured us that there was water.

Monday, October 17

The recording of Trench A-A/1 was completed by midday. It was a ridiculously small operation given the size of the site, but it had provided invaluable information about the occupation of the citadel. Cuyler and I were again impressed by the neatness and orderliness of Mughal's excavation—a textbook example of Wheelerian digging.

Barbara had a surprise for us when we returned to camp. The wizened old chap who had worked for Stein back in 1928 and who had guided us to the site, had brought her a skin of a full-grown cheetah. He said that it had recently been killed in the mountains to the north. He asked 25 rupees ($5.25). She paid it so as to have

proof of the existence of those splendid animals in the region. Most reports listed them as endangered; and some said they were extinct.[14]

Tuesday, October 18

At 8:00 Cuyler, Mughal, and I took off on a foot survey of the general areas to the east and south of the site. I sent Mughal off to investigate two valleys that we could see clearly to the east. Cuyler and I headed south toward what we thought from our ground-level vantage to be a huge mesa-like range. When we got to it, however, we found that the "mesa" edge was really a knife ridge composed of water-deposited stones. At the very peak of the ridge, the composition was of several strata of white stones that showed evidence of having been intensively rolled and smoothed. It was an amazing experience to stand on the tops of those ridges and gaze at the surrounding chaotic scene of decayed and eroded, spongy-textured clays and limestone in steep-sided heaps separated by deep erosion gullies (plate 30). Utterly barren. We followed the ridges to their western end where the talus met the active bed of the river. It seemed like a reasonable location for a site but none was found. As we walked from there back toward the site, we did find occasional Harappan sherds on the surface, but they had probably been washed out from the site and dispersed randomly over the plain by centuries of water action.

An alarming situation arose when we arrived back at camp at 11:00 in keeping with our pre-arranged schedule. Mughal had not yet returned. At 11:30, Barbara and I hiked out to the top of the ridge south of the site to see if we could spot him. No success. By then the temperature in the open sunlight was almost unbearable. At 12:30, Cuyler and I headed out on separate paths in search of him, and at 1:00 I heard a distant yell from Cuyler who was relaying the "All's well" holler from Barbara back at camp. We returned to camp to find Mughal intact but utterly exhausted. Instead of going to the valleys east of the site, he had gone north to the Suntsar Customs post to ask about old remains and sites. Some fellow from there had walked him about four miles to the northeast to see some "ruins" which turned out to be remains of a recently abandoned small village. Mughal reported seeing three small pools of water in the valley to the north of the Sutkagen Dor—one at least four feet deep—but found nothing of archaeological significance. He somehow got a camel ride back to camp. We were all, including Mughal, relieved and also disappointed that in spite of the strenuous efforts, we had failed to discover any new sites.

Later in the afternoon, we were visited by a Major Montaz, head of Customs for the Gwadar-Pasni-Turbat area. His main concern was with smuggling. He had heard that we were in the area and made a special effort to check into our well being. He spoke good English and was refreshingly open and friendly. He expressed amazement that Americans would be traveling by camel, especially with a woman! He went on to give his men from the Custom's post a stern lecture about all this: some of the men had refused to ride camels, demanding a vehicle from the government. He told them in no uncertain terms that we were an example of why America was such a great country—a country whose people still had the pioneering spirit. (To be truthful, we "pioneers" would have been quite happy to make use of four-wheeled vehicles and even helicopters had they been available.) The major offered some helpful travel information and invited us to use his facilities at Pasni.

Militia Commander Jahangir and two of his assistants joined us at camp for dinner. Sitting on a mat by the tents, we enjoyed rice, goat curry, and a rice and sugar

pudding put together by Noor. We were invited to dinner the following day at the fort.

Wednesday, October 19

We devoted the day to completing the records and drawings, to letter writing, and to packing. Jahangir sent us a message by camel courier. Because of fighting that had erupted among some people in his area, he would not be able to host dinner for us. As compensation, he sent a roasted leg of venison, some rice, and chapattis for our dinner. It was a most welcome and appreciated gesture. We thoroughly enjoyed the food, although there was a lingering mood of disappointment.

Our work had gone well, and, given the limitations imposed on what we could do archaeologically at the site, we were satisfied. The excavated architecture, pottery, and artifacts allowed us to make an absolute cultural connection between this remote coastal site and the Mature Indus civilization. We were, of course, disappointed that we had not made a significant discovery bearing on the question of Indus-Near East contacts. But most of the survey was still ahead of us.

Thursday, October 20

The seven camels and two drivers had arrived sometime during the night, and we were up at 5:30. Packing up the tents and loading the equipment and supplies on the camels went quickly, and we were on our way south toward the coast by 7:45. We started out by following the dusty motor road used by the militia supply truck, but we were able to take short cuts since our camels were more sure-footed than their vehicle was maneuverable in the soft, sandy patches of the plain.

About 9:30 we had arrived at the western edge of the ridges that ran east-west south of the site. Suddenly Mughal, with no comment, jumped off his camel and took off at a fast clip toward the west with the binoculars. I dismounted and set out after him thinking that he might have spotted a site. I failed to discuss my action with the rest of the team and just expected them to halt and await our return. When I caught up with Mughal, we went on together to examine the feature, but it turned out to be just another of those deceiving natural ridges, devoid of human remains.

We walked quickly back to where we had left our party, but the camels were nowhere in sight. So, we started walking, following their path, hoping to soon catch up with them. We walked and walked and walked. By 11:30 we were exhausted from the intense heat and still no sign of them. Had we missed their path? Why hadn't they stopped and waited for us? We did not even have a canteen of water with us.

We were about ready to sit out the sun for a few hours when along came a truck on its way to Jiwani. We hitched a ride. As we drove over a natural ridge we spotted, about one mile ahead, our camel caravan. In less than a happy mood, we rejoined them and continued on to Kalatu (figure 8; plate 31). There we found a small grove of trees under which we cooled off literally and figuratively, and had sandwiches and plenty of water. After an hour and a half rest, Cuyler, Mughal, and I walked about one and a half miles to see the "fort." It was a peculiar ruin—a square, mudbrick sort of tower perched on top of a small, eroded sandstone outcrop out in the middle of the immense, flat alluvial plain. Quite obviously the original "fort" had been larger, and its outer structures had collapsed with the erosion of the

outcrop upon which they had been built. There is not even an entrance way remaining. What is its date?

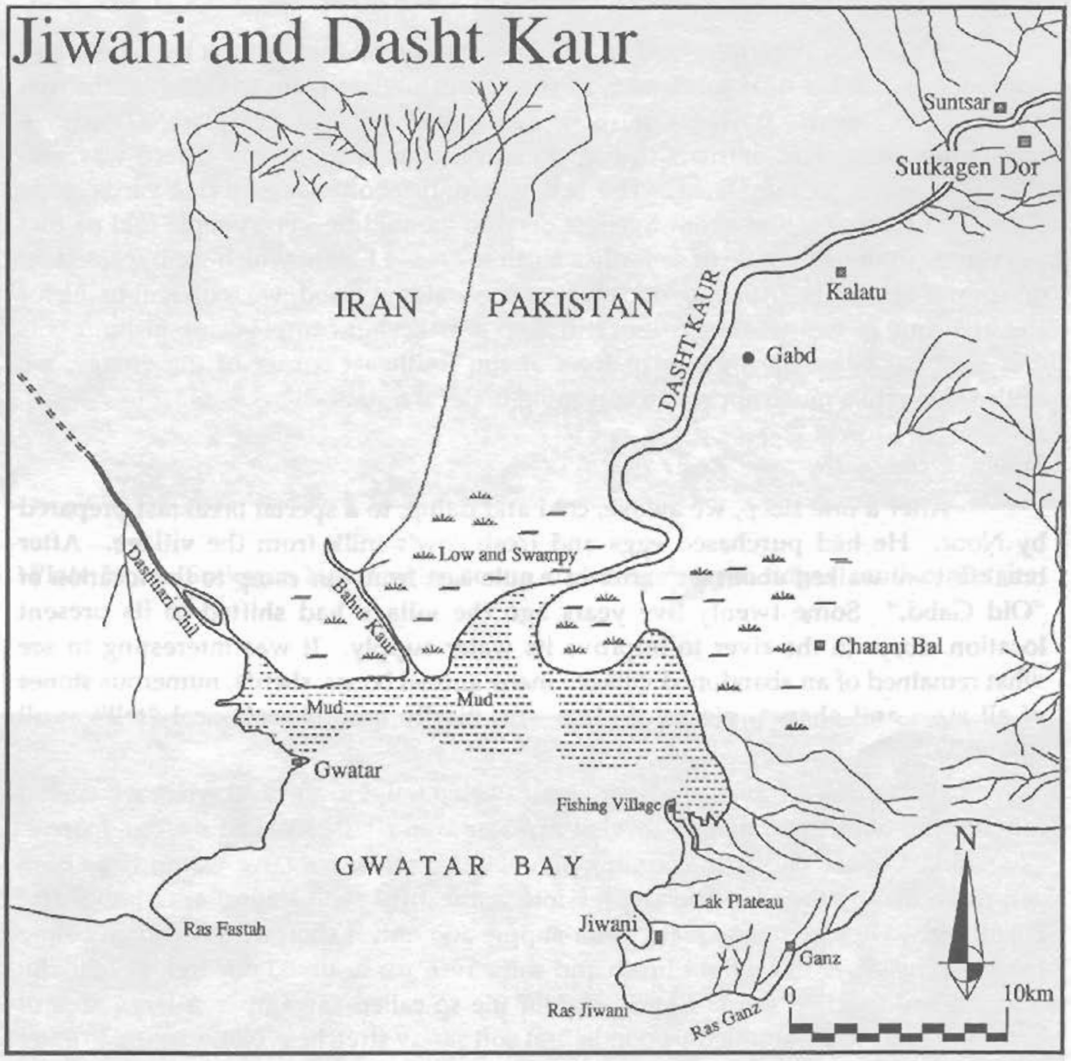


Figure 8 **Map of Jiwani and Dasht Kaur**

Around the base of the outcrop we found the remains of structures whose walls were constructed of crude wooden stakes that had been stuck into the ground and plastered with mud. There was a lot of broken pottery—hand-formed cooking wares and finely painted sherds from vessels that looked like modern Sindi pottery (black painted designs on red slip with much mica in the paste), glazed china, pieces of copper in thin sheets, iron, and glass. Certainly the structures dated to the turn of the century, if not earlier, because the place is mentioned in the travel accounts of British officers. For example, Captain R. B. Lockwood who explored the Dasht Valley in 1877 (see MacGregor 1882:78) described "Kulatu" as consisting of "a few matting huts" situated one mile south of the river. "It has a conspicuous mud tower perched on the top of a fifty foot high mud hill overhanging the village."

Water was available, as we had been told by Jahangir. Also, one small shop sold cigarettes and a miscellaneous collection of products such as needles, pins, thread, and cotton strings for holding up the voluminous trousers worn by the people in that area. We learned from some local people that this was actually the site of the original village of Kalatu up until about twenty-five years ago when an epidemic forced the settlement to relocate to a place some one and a half miles north, closer to the riverbed.

At 3:00 we were refreshed enough to remount the camels for a two and a half hour ride through a mild sandstorm across the featureless plain to Gabd on the east bank of the Dasht. It was a fairly sizeable reed hut village (plate 32) with a surprising number of animals (cattle, donkeys, chickens, sheep). There was also plenty of water in the Dasht. The bed was only about seventy-five-yards wide there, and the water was about five feet deep in the middle. The people told us that the water continued a mile or so farther north to "new" Kalatu which we bypassed on one of our shortcuts. Availing ourselves of the water at Gabd, we took real baths for the first time in two weeks. After setting up a makeshift camp—using just our cots and sleeping bags—in a grove of trees at the southeast corner of the village, we settled down to a much appreciated evening under the stars.

Friday, October 21

After a fine sleep, we awoke, cold and damp, to a special breakfast prepared by Noor. He had purchased eggs and fresh cow's milk from the village. After breakfast we walked about a quarter of a mile east from our camp to the location of "Old Gabd." Some twenty-five years ago the village had shifted to its present location closer to the river to improve its water supply. It was interesting to see what remained of an abandoned village: many animal bones, sherds, numerous stones of all sizes and shapes, pieces of glass—practically no archaeological "tell" at all (plate 33).

We resumed travel south for about twelve miles until 12:30 when we veered off the trail about half a mile to visit a major water hole marked on our maps—Chatani Bal. If we had been counting on obtaining water here, we would have been seriously disappointed. The depression, some fifty feet across, was bone dry! Fortunately, we had an adequate water supply and only a short distance to go before reaching Jiwani. After a light lunch and some rest, we resumed our trek at 2:30. By 5:30 we had reached the northern edge of the so-called "swamp"—a large area of grasses, small shrubs, numerous ponds, and soft sandy stretches. Not wanting to enter the area that late in the day, we stopped and set up camp about thirty yards from a lone scraggy tree, the only one we had seen since leaving Gabd. To the south and southeast we could make out a huge ridge of fantastically eroded mud and limestone that created the image of a fairyland city in the waning light.

Saturday, October 22

Soaking wet and cold, we arose in the dark at 5:30, had a chilly breakfast, and loaded the camels for a 6:30 start, just before sunrise. For the first hour and a half, it remained uncomfortably chilly, damp, and misty as we plodded through the "swamp." Some five miles north of Jiwani town, we came upon a neatly trimmed, freshly painted wooden bungalow. Surprised, we stopped and yelled "hello." A good-looking, young Pakistani fellow appeared on the porch and greeted us. Safdar Manzoor was the local maintenance representative for Burmah-Shell Oil Company.

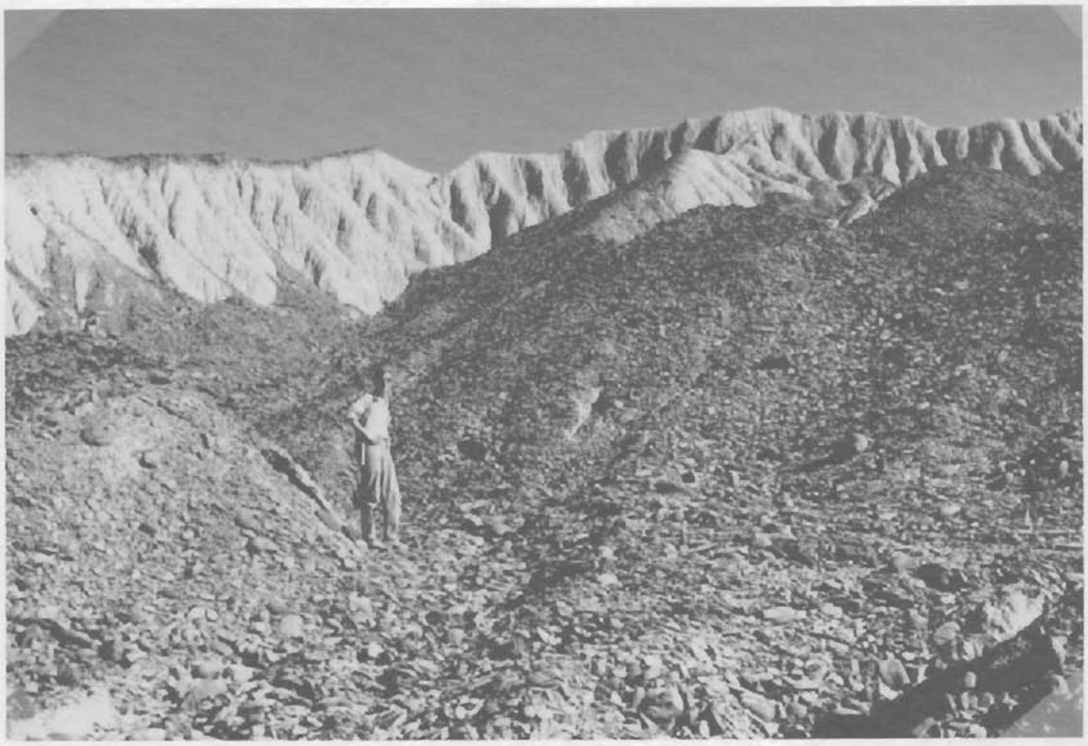


Plate 30 Sutkagen Dor: Cuyler Young exploring decayed ridges south of the site

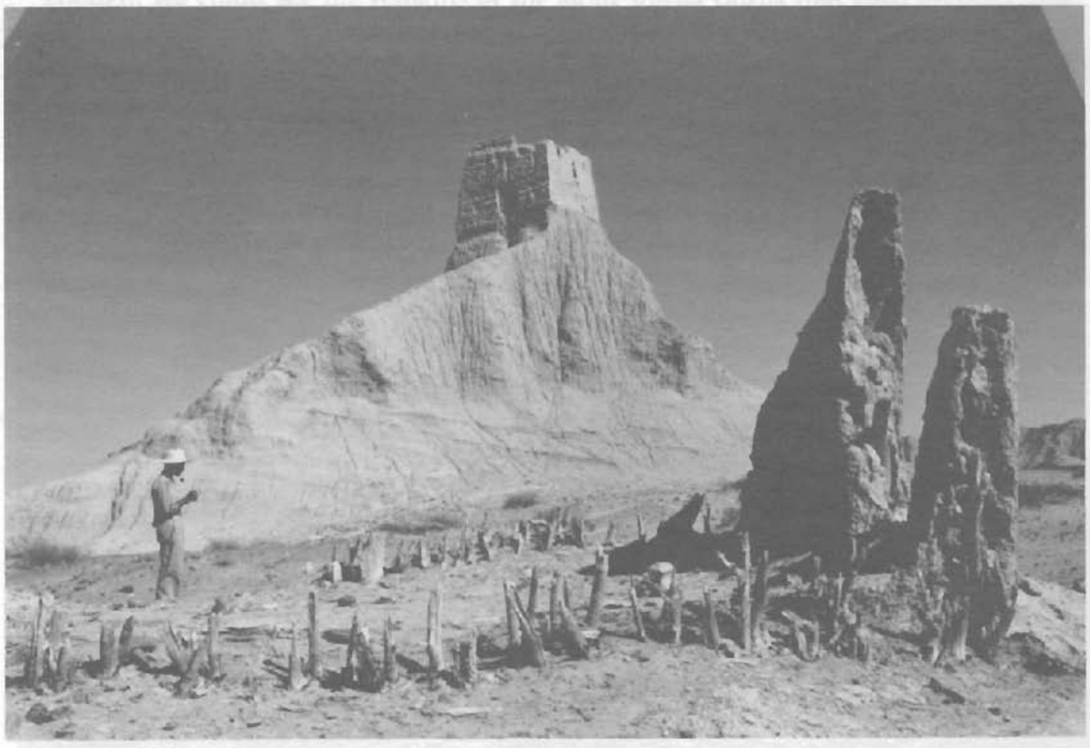


Plate 31 Rafique Mughal examining the remains of Old Kalatu, Dasht Valley



Plate 32 Village of Gabd, Dasht Valley



Plate 33 Ruined mosque at Old Gabd

His duty was to refuel and service planes that stopped at the small airstrip. Many commercial and military planes did not have the range to fly non-stop from the Near East to Pakistan or India, so fuel stops like this were essential.

He invited us to stay at his bungalow—an invitation we did not hesitate to accept. After resting until 3:30, the Civil Aviation jeep picked us up and took us into Jiwani, a town of some 3,000 people. We were taken to meet the tahsildar, Abu Bakr, with whom we spent considerable time seeking local information about travel and possible ancient sites. Some village elders who remembered Stein's 1927 visit to the area were brought in. They described in detail how to find Lak Plateau where Stein had found, and partially excavated, 200 burial cairns. Those, we knew from Stein's publication, had nothing to do with the Indus civilization, but much had been written about their possible identification with a southern wave of Indo-Aryan invaders. So, we were interested in seeing them for ourselves.

With the exception of some ruins just southwest of Jiwani and two cemeteries to the south, the elders knew of no other ancient remains in the area. We asked them specifically about a place called Take-dap, between Ras Jiwani and Ras Ganj, where Stein had discovered some burials that interested us. They did not know the name but surmised that the place must be what they called Daran. The tahsildar promised to arrange to have camels to take us there the next morning.

After the obligatory tea, the tahsildar and his party walked us over to the "ruins" on top of a sandy hill just to the southwest of the main part of the town. There were a few badly weathered sandstone blocks carved into rough pillar form. These pillars may have originally been parts of an old abandoned mosque, but we did not have time to investigate them.

On our way back to the bungalow, we stopped briefly at Lak Plateau. Sure enough, we could see the remains of the stone burial cairns that both Mockler and Stein had reported. We would return to see them in more detail.

Sunday, October 23

Since the camels promised by the tahsildar didn't arrive on time, we hired some from a local man who "just happened to have some for hire." They weren't very good-looking beasts, but we had no choice. At 8:30 Cuyler, Mughal, and I headed out to search for Take-dap. Some twenty minutes after we left, the tahsildar's camels arrived at the bungalow. They caught up with us about half way to the airport. They were much better camels than the ones we had hired, so we switched to them and gave the local man five rupees for his trouble.

They were really fine riding camels. We no sooner got on them than they took off at a fast trot. It was a riot; we couldn't stop them. We trotted across the runway and out to the area called Daran. The surface of the Jiwani promontory was described accurately by Stein as barren, calcareous rock. Our camels had no difficulty in crossing it.

We halted the camels at the top edge of the western side of the valley which, according to our maps, was called Take-dap. The scene in front of us was formidable. The western side of the valley consisted of sheer cliffs of crumbling, unstable calcareous stone (plate 34). We could see, about a quarter of a mile to the south, the beach at the mouth of the river (there was no bay or inlet). The main valley forked into two smaller branches. The western branch continued in a general northerly direction, and the eastern one wound northeasterly for a mile up to the "village" called Daran. We found, however, that the name Take-dap was used not

just for this plateau and valley but also for two more sets to the east of this one. We numbered them 1, 2, and 3 from west to east (figure 9).

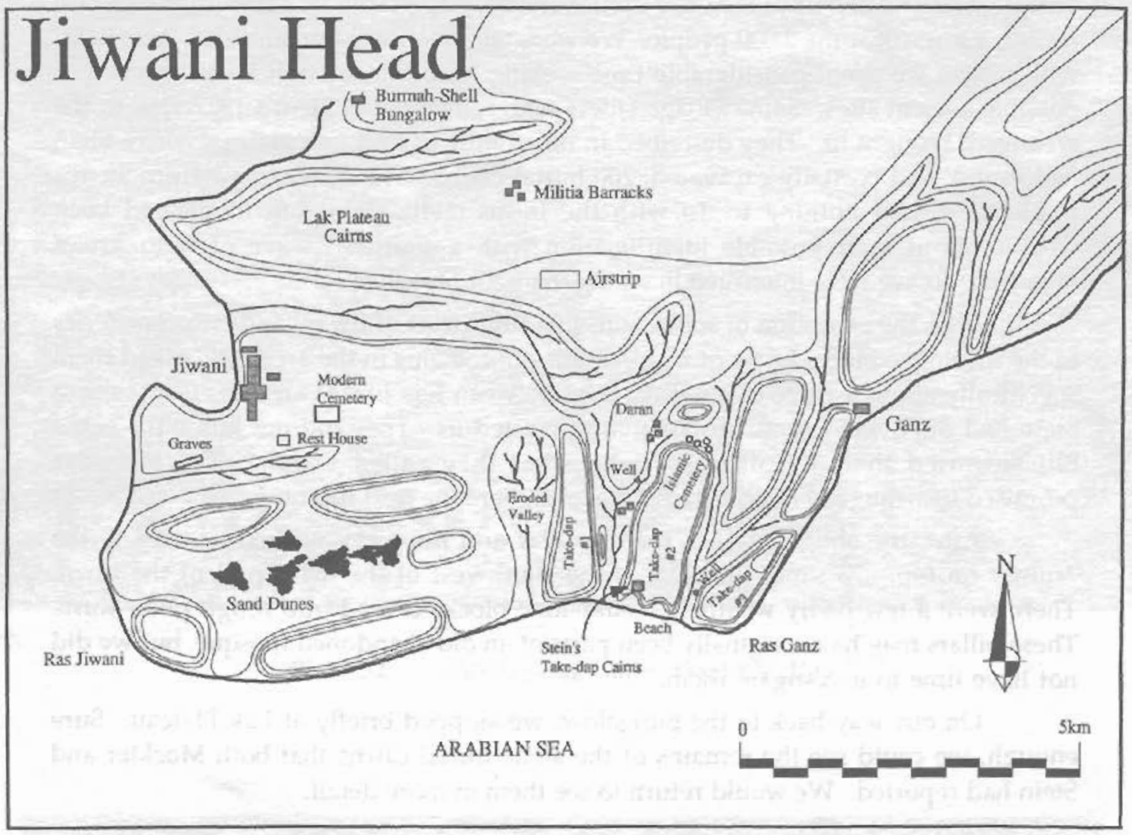


Figure 9 Map of Jiwani Head

While on the valley rim of Take-dap #1, we walked out to the end of the promontory where it dropped off sharply to the sea (plate 35). No stone circles or other structures were in sight. Several more deep ravines were visible to the west and there were clearly two more to the east. Inland, back of the coastal promontories, the relatively flat land sloped up gradually to the north.

The trail down into the valley was extremely rugged. The camels were led down safely; we were in awe of their ability to walk on those steep, crumbling surfaces. It was doubtful that horses could have managed it, and it would have been difficult for us on foot.

Between Take-dap #1 and #2, where the valley forked into the two branches, there were two reed-mat-on-wood frame huts (plate 36). We met one woman and six or seven tiny children there. She offered virtually no useful information except indicating that graves of some sort were up the valley in the direction of Daran.

Going up the eastern valley about a quarter of a mile, we encountered an abandoned well. The first quarter mile was narrow and twisty, but then the valley opened out into fairly level and open country except for the western edge which was bounded by the high cliff of the ridge that divides the overall valley. At Daran we



Plate 34 Terrain at Take-dap Valley, Jiwani; looking inland from the top of the west ridge



Plate 35 Rocky coastline at Ras Jiwani, looking east

found three reed huts with a couple of women and several children. They also were not able, or willing, to provide us with useful information.

Just east of the huts we saw several small agricultural fields. Not more than another quarter mile from the huts, going east, we came to a rough, rocky spot where the trail went up over a difficult pass into the next valley. At the base of that trail, on the right side, was a small group of Islamic graves in the form of crude rings of stones, or in a couple of instances, rectangles of stones. Upright stones were situated at the north and south ends of each circle. The local calcareous stone used for constructing the circles made the monuments difficult to see against the natural background. That use of stone circles for what were most certainly Islamic burials demonstrated a local continuity in construction that goes back well before Islamic times.

The trail taxed the camels dexterity to the limit, but not once did they slip or falter. Upon reaching the top, we stopped for a quick lunch beneath some acacia trees. Then, leaving the camels there, we climbed up the steep side of the promontory we called Take-dap #2. From the top we could see far in every direction, but all was desolation. We decided to follow the valley to the seashore and climb up to the top of the next promontory to the east. But first, we returned to where we had left the camels and questioned our camel driver and the levyman (an armed guard sent with us by the tahsildar) about the region. They told us that that valley was called both Take-dap and Daran. It seemed that Take-dap simply meant something like "doorway to a high place," actually a perfect descriptive term for those valleys that afford the only access from the seacoast to the plateau. But that information offered little help in solving some of our topographic problems.

We rode toward the beach. In the dry riverbed, we came upon an oasis which consisted of a hole about one meter across, dug through the solid rock (plate 37). The water level was about three meters below the top of the hole. A small herd of cattle and another of goats were drinking the precious fluid from troughs that had been hollowed out of local stones. Two men with buckets tied to ropes were filling the troughs from the well. Our camels took over one of the troughs, and we filled our nearly empty canteens. The water had a slightly brackish taste but was more than welcome.

At the beach, we again left our camels and climbed to the top of the promontory to the east side of the valley that we called Take-dap #3. On top, we followed the southern edge to the northeast for quite a ways but then had to cut inland to get around numerous small, but deep, erosion gullies. We were quite high there, but we thought a still higher ridge to our north would be the actual top of the promontory. Up and up we climbed until we came upon the remains of a temporary bench mark near the southeast tip of the Jiwani Plateau.

A small bump in the surface of the plateau prevented us from seeing the small fishing village of Ganz on the coast. Fortunately, the sky was clear and we got a good view of the coastline to the east: steep, sheer cliffs all the way to the low extension of land that went out to Pishukan. But haze in the distance prevented us from seeing Gwadar as we had hoped we might be able to do.

We were convinced that Stein's Take-dap graves were not in the area we had covered that day. His map and descriptions were practically useless in that wasteland. We returned to the camels and proposed to the camel driver that we ride westward along the beach to the first Take-dap Valley we had visited. We started out in that direction but the camels would have no part of the pounding surf. They



Plate 36 Reed mat huts in Take-dap Valley, Jiwani



Plate 37 Water hole near Take-dap Valley, Jiwani

preferred to return the way they had come, so we retraced our trail up and down the rough paths over which we had plodded earlier in the day.

Our return trip from the beach started at 2:30. At 4:00 we were again on top of the promontory along the eastern edge of the first Take-dap Valley and ready to head back to the bungalow. The ground surface was relatively flat and our camels took off at full trot. The fast, jolting went on for fifty uninterrupted minutes. The speed was admirable, but the price in shaken bones was hardly worth it. We felt like disarticulated skeletons held together in human form by raw nerves. Upon reaching the bungalow, we paid-off the camel driver: 8 rupees ($1.68) for each of the camels for the entire day.

It had been a most strenuous day with virtually nothing to show for it except that we could truthfully say that we had seen, and experienced, most of the southeastern part of the peninsula.

Monday, October 24

We struggled to get up in the morning, finding ourselves stiff as could be from the previous day's camel rides. But at 8:00 all of us, except the cook, headed out on foot for Lak Plateau to investigate the 200-odd burial cairns reported by Mockler (1877:132-33) and Stein (1931:77-82) (figures 10 and 11 here). It took only half an hour to reach the top of the steep, northern edge of the plateau. The footpath that led to Jiwani came up onto the plateau near the center of Stein's Area III at the eastern end of the cairn field. We split up so as to examine as many of the cairns as possible.

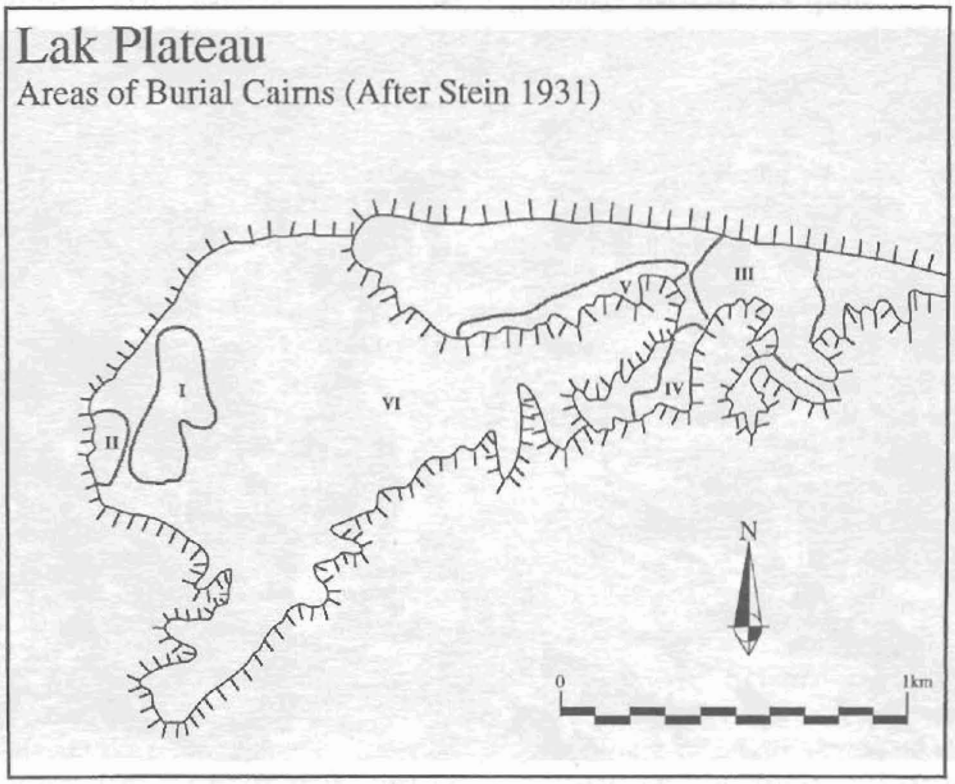


Figure 10 **Map: Lak Plateau and burial cairns**

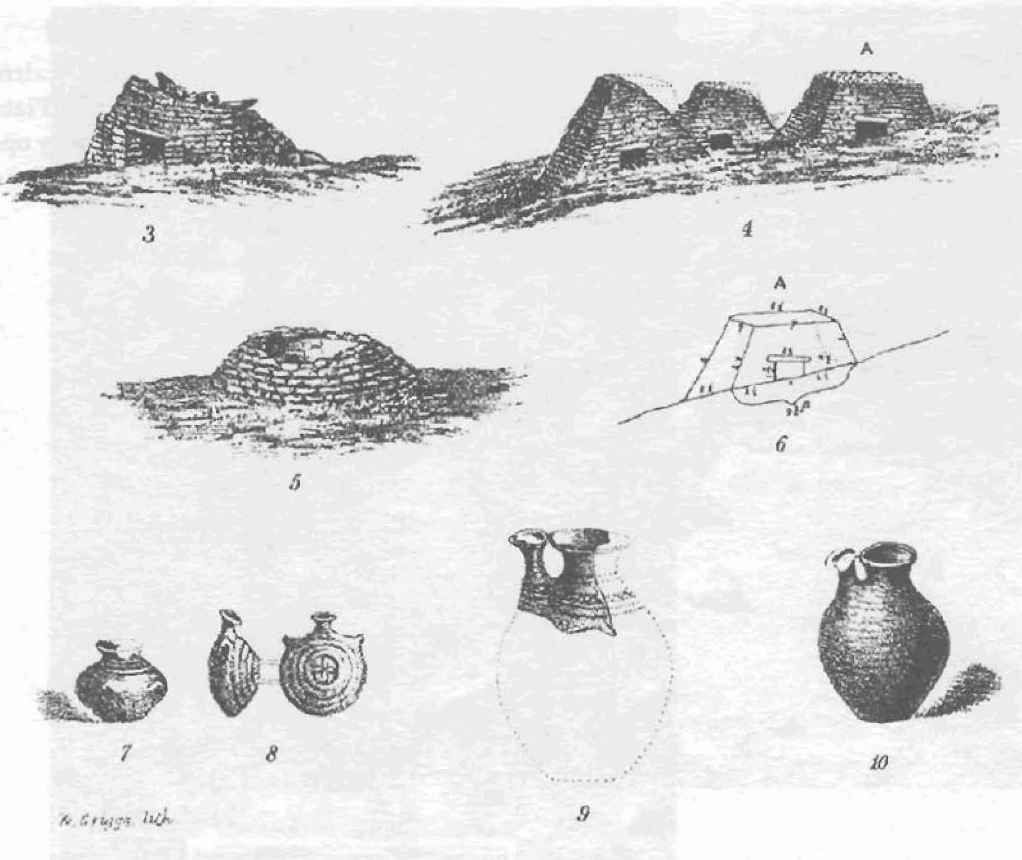


Figure 11 Burial cairns and pottery described by Mockler (Mockler 1877)

Barbara and I concentrated on Stein's Area III. At only two of the many stone circles did we find sherds (plate 38). On the surface of one of them, Barbara found a small copper finger ring (plate 42,a) and part of a pottery canteen such as had been described by both Mockler (1877:120, figure 8) and Stein (1931:plates VIII-IX). Its outer face was painted with red and black geometric designs (figure 13; plates 39 and 40). At other surface locations around the burial cairns, we found a copper rectangular plate (plate 42,b) and a painted, terra-cotta animal figurine (plate 41). Associated with other burial cairns in Area III, we found more painted sherds (plate 43) and three incised sherds (plate 44).

At another circle, I found several sherds of a painted vessel that had black and red hook designs painted on a white slip (figure 12; plate 45). That motif is quite common at the Jiwani sites and at other sites in southern Baluchistan. The date of the pottery and of the stone burial circles was not at all certain. Nor was their presence in these remote regions understood. There were theories about them representing the southern invasion route of the Indo-Aryans sometime in the second millennium B.C., but there was no proof.[15]

Mughal found sherds at only two circles in Area IV—a couple of nicely painted sherds similar to the ones we had found (plate 46). Cuyler looked in Area V and in the west end of Area III. He found only half of a tri-foil pottery spout with a painted rim, certainly post-Harappan, and common by the time of the Iron Age in that part of the world. Stone circles along the east edge of Area IV and the southwest edge of Area III were tumbling down the eroding face of the cliff.

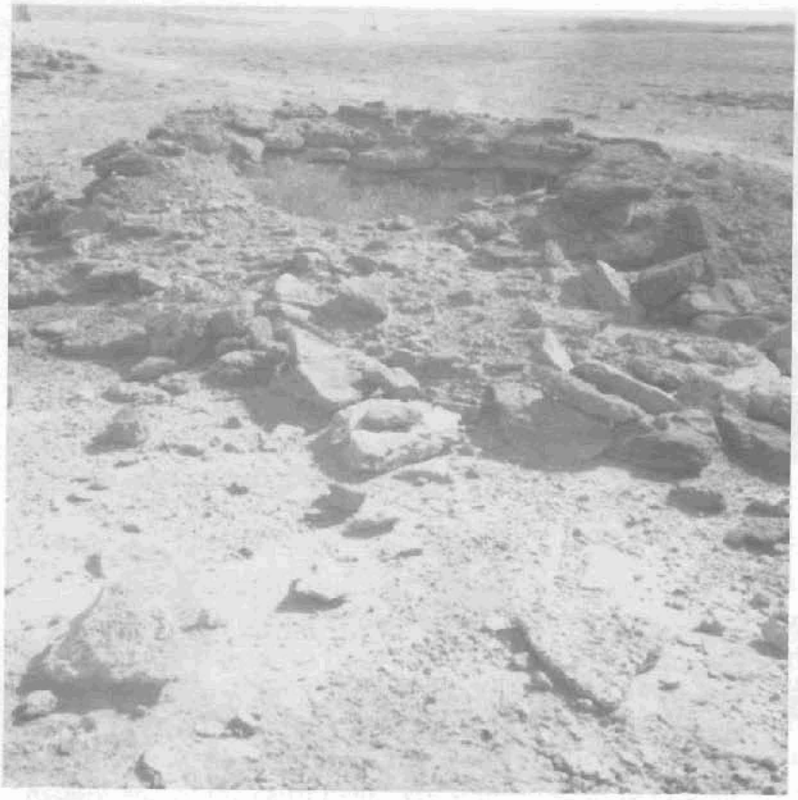


Plate 38
Burial cairn on Lak Plateau, probably opened by Mockler or Stein

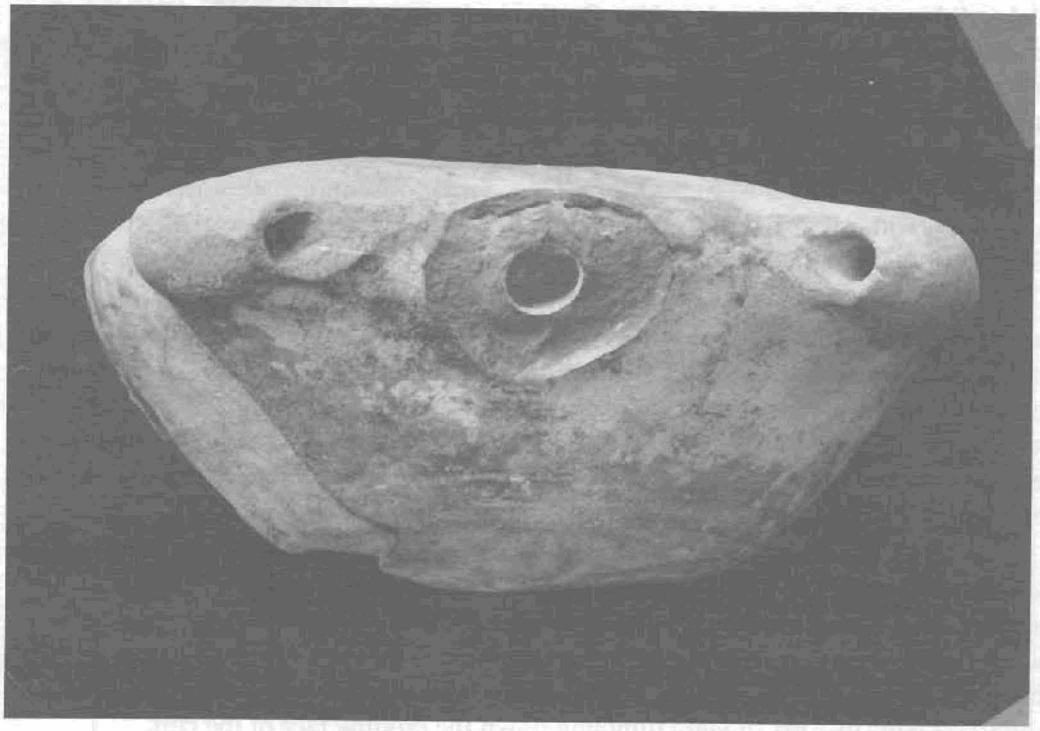


Plate 39 Top view of pottery canteen from burial cairns, Lak Plateau, Jiwani

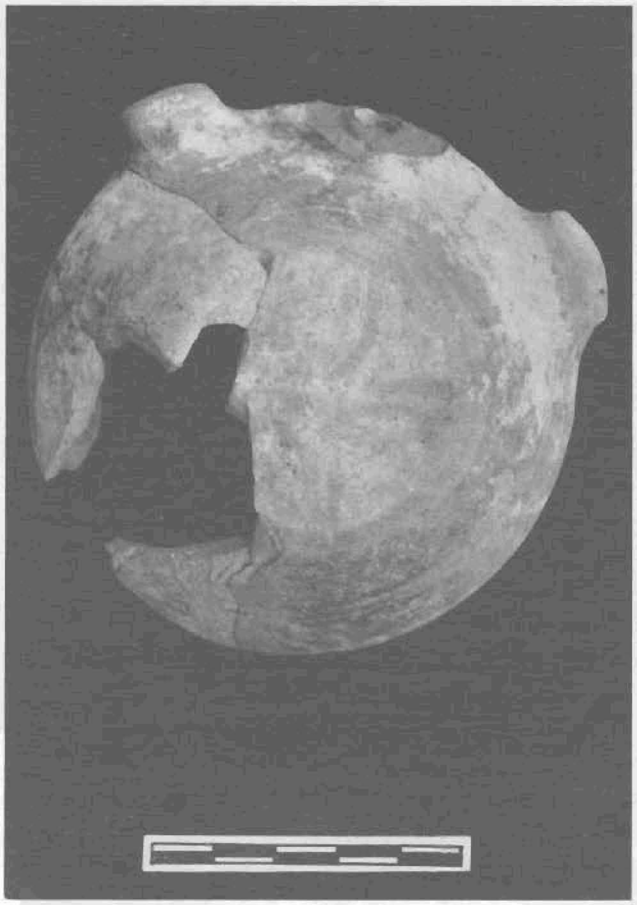


Plate 40
Pottery canteen from burial cairns, Lak Plateau, Jiwani

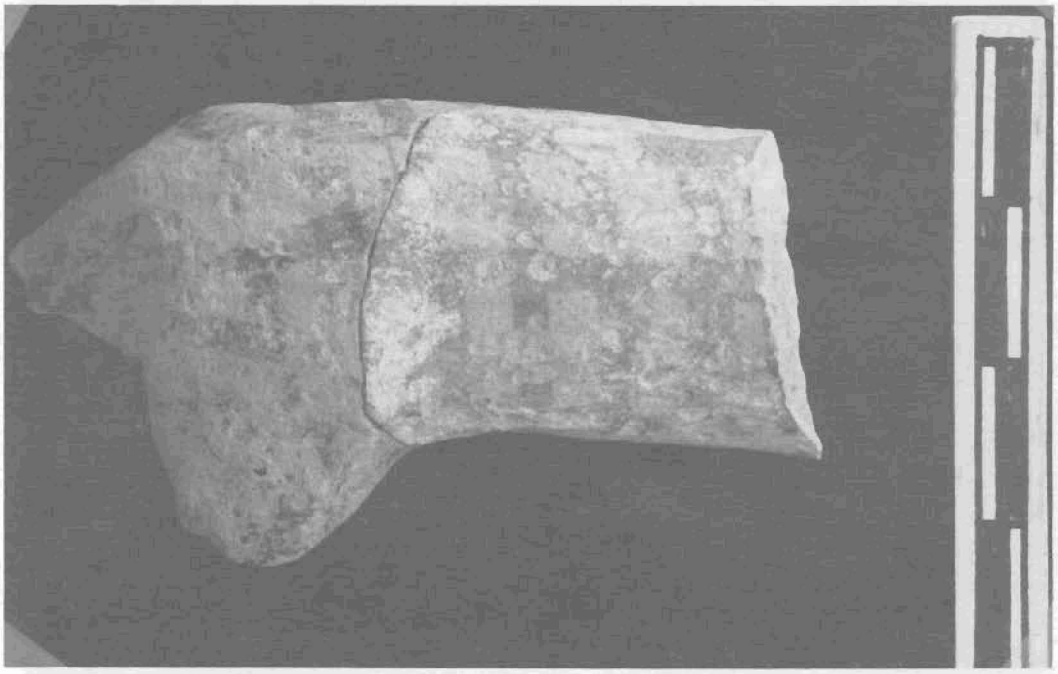


Plate 41 Painted terra-cotta animal figurine found near burial cairns, Lak Plateau, Jiwani

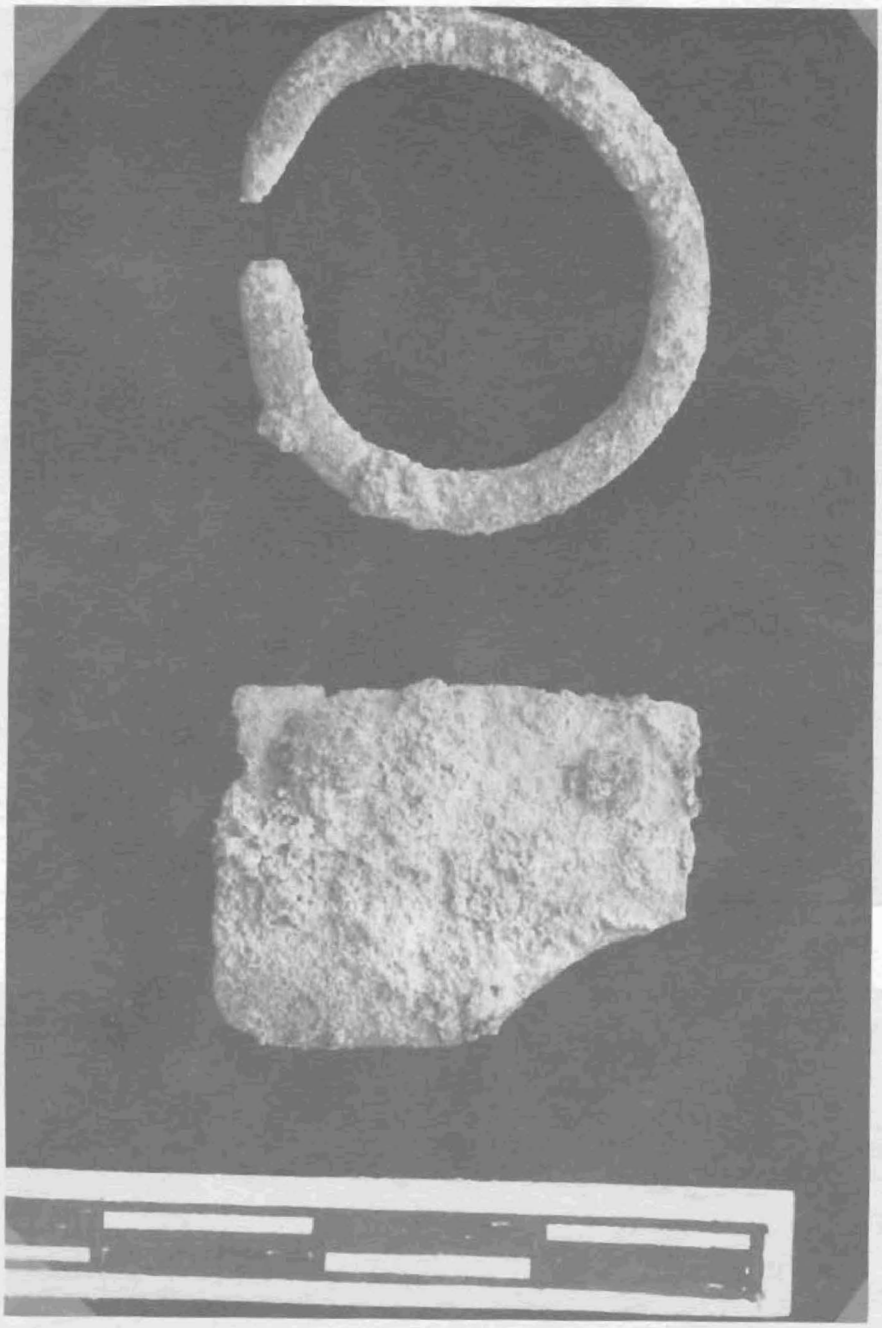


Plate 42 a) Copper ring and b) Thin copper plate found at burial cairns, Lak Plateau, Jiwani

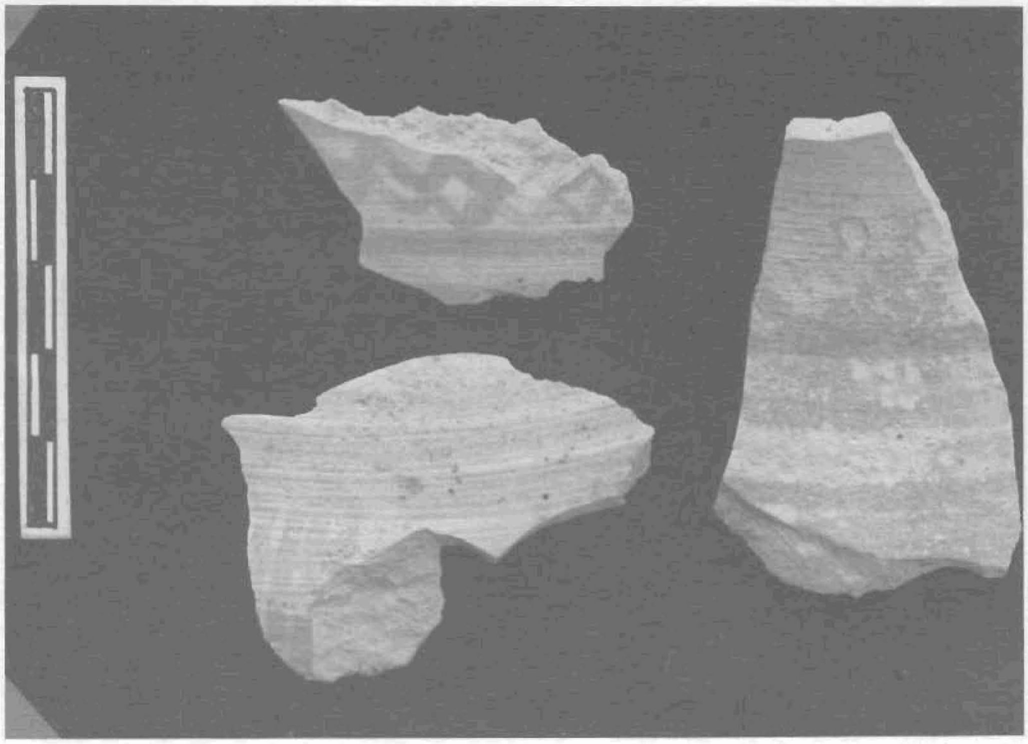


Plate 43 Painted sherds found near burial cairns, Lak Plateau, Jiwani; upper left sherd has black-painted decorations, the other two have red-painted decorations

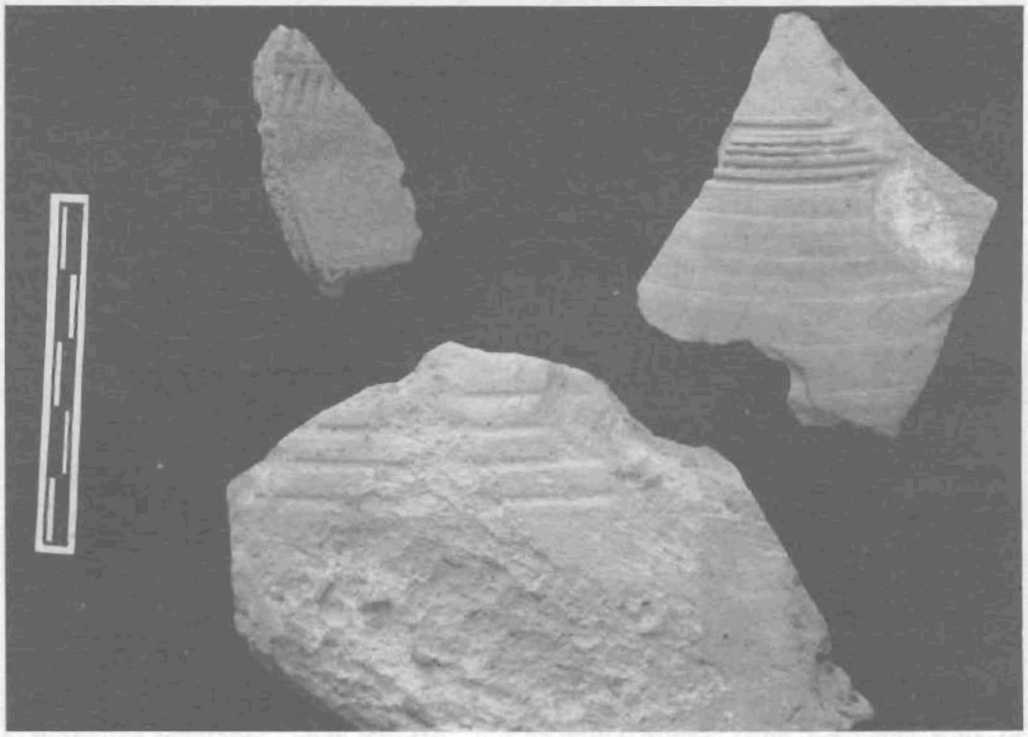


Plate 44 Incised sherds found near burial cairns, Lak Plateau, Jiwani

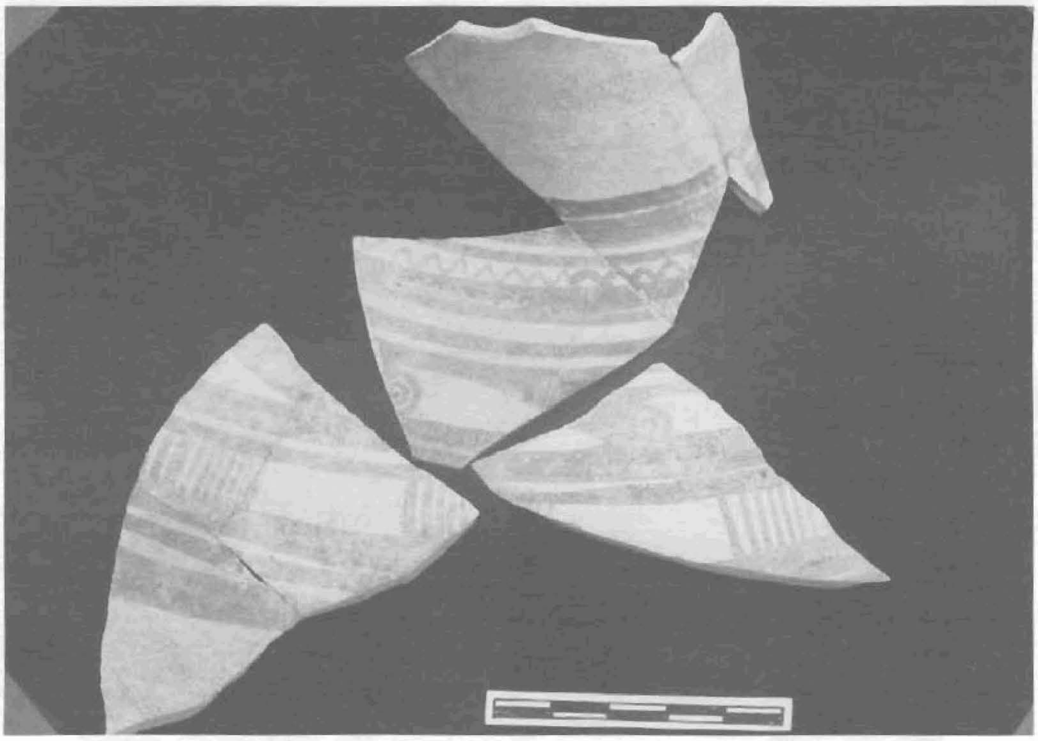


Plate 45 Fragments of "Londo Ware" vessel from burial cairns, Lak Plateau, Jiwani

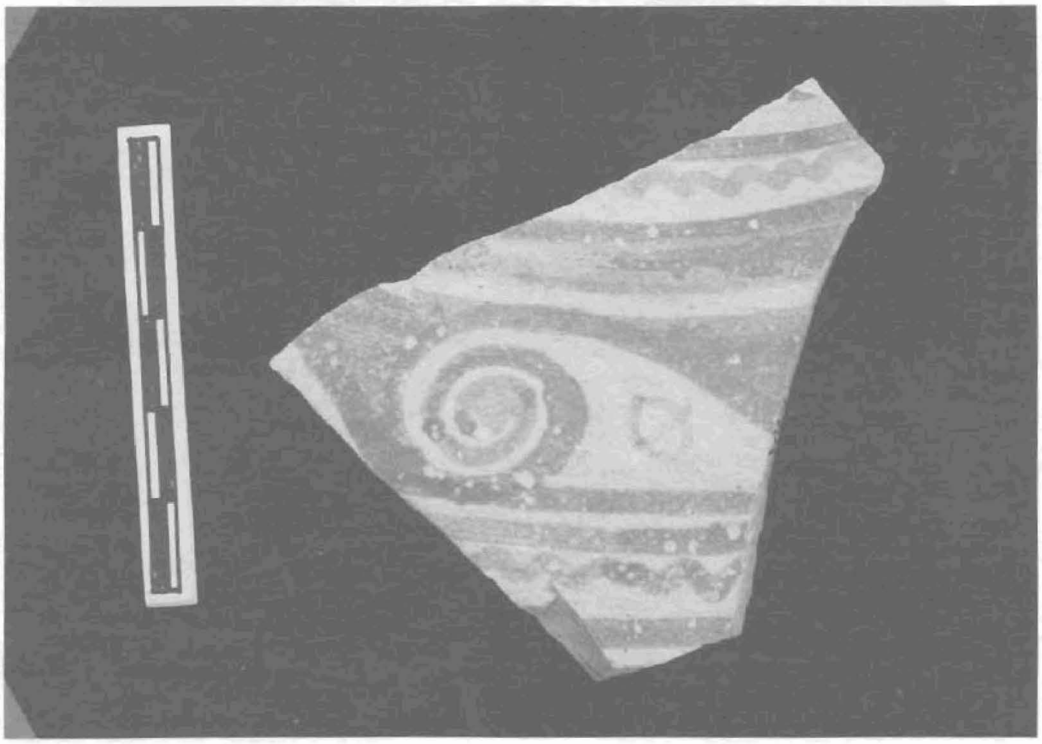


Plate 46 Sherd of "Londo Ware" from burial cairns, Lak Plateau, Jiwani

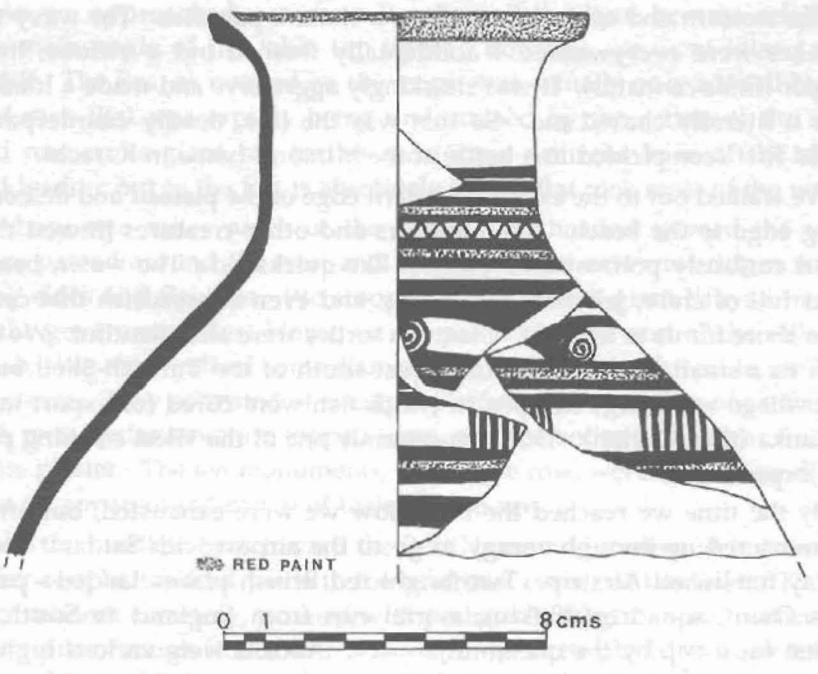


Figure 12 "Londo" pottery from Lak Plateau burial cairns

Scale 1:1

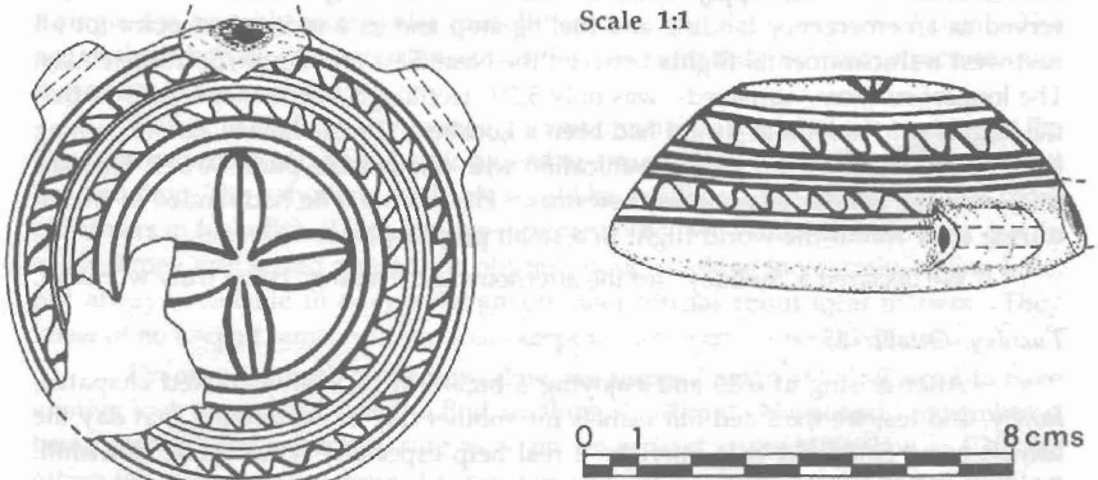


Figure 13 Pottery canteen from Lak Plateau burial cairns

We all walked over to Areas I and II, across the lower level, the flat sandy Area VI. It appeared that most of those circles were not dug into by Stein. We opened one of the circles in Area II by removing the stones from the collapsed superstructure and found it completely empty except for pieces of sandstone resting on a thin layer of clean sand covering the natural rock surface.

We were discouraged—again; no new evidence to help in the cultural identification or dating of those enigmatic structures. Were they really burial cairns or more like cenotaphs? Stein reported finding only scattered bone fragments, some of which we saw in his dump piles.

The western end of the plateau was a snake's paradise. The wavy tracks of small snakes were everywhere. I accidentally flushed out a vicious, little saw-scaled viper (*Echis carinatus*). It was shockingly aggressive and made a loud rasping sound as it literally chased me. So that was the live, deadly counterpart of the viper I had first seen pickled in a bottle at the Mintons' home in Karachi.

We walked out to the extreme western edge of the plateau and descended the crumbling edge to the beach. Dead lobsters and other creatures littered the beach which had curiously porous sand—almost like quicksand. The water, beautiful in color, was full of crabs, jellyfish, sea snakes, and even a swordfish that came close enough to shore for us to identify. Giant sea turtles were also plentiful. We followed the beach to a small fishing community just south of the Burmah-Shell bungalow. Near the village were large salt pits in which fish were cured for export to Karachi and Sri Lanka (then Ceylon). That was certainly one of the vilest smelling places we had ever experienced.

By the time we reached the bungalow we were exhausted, but after lunch Barbara mustered up enough energy to go to the airport with Safdar. That was a special day for Jiwani Airstrip. Two bright red British planes landed—part of the "Queen's Own" squadron making a trial run from England to South Asia in preparation for a trip by the queen in January. Aboard were various high officials and the queen's private secretary. Barbara was not permitted to see the insides of the planes but was allowed to approach and touch them.

The normal schedule at Jiwani Airstrip was the landing of one Pakistan International Airways supply plane on the fourth of every month. Otherwise, it served as an emergency landing and fueling stop and as a radio checkpoint for all east-west transcontinental flights between the Near East and South/Southeast Asia. The longest runway—unpaved—was only 5,500 feet long. The manager told us that the largest ship to land at Jiwani had been a Lockheed Constellation. Before coming to Pakistan, we had been in communication with one notable pilot, Lowell Thomas, Jr., son of the famous adventurer/newsman. He and his wife had landed at Jiwani during their round-the-world flight in a small private plane.

We declared a "holiday" for the afternoon and evening: being truly worn out.

Tuesday, October 25

After arising at 6:30 and enjoying a breakfast of freshly cooked chapattis, honey, and tea, we mounted our camels for another day of exploring. That day the camels came equipped with stirrups, a real help especially when going downhill. Leaving at 7:40, we headed again out past the airport to the Take-dap Plateau area. It took us more than an hour this time. We were so stiff and sore that we could not endure the full trot—only the shuffle trot. We reappraised the situation but could not satisfy ourselves as to how we had missed locating the Take-dap burial cairns the day before.

We turned our attention next to the valleys farther west along the coast. We had only to go to the next promontory to convince ourselves that we were going the wrong direction to locate archaeological sites. Nonetheless, we decided to continue on to Ras Jiwani and to complete the survey of the coastal strip. The valleys turned into rough irregular ravines with no definite limits. On the west side of each valley was a rather abrupt cliff and on the east side the land rose gently, like a tilted tabletop, until it dropped off sharply and formed the western side of the next valley to the east.

As we approached nearer to Ras Jiwani, the land became relatively flat with the main angle of the table top tipping down as we went inland from the coastal cliff. The Ras, as marked on the maps, was actually only a small but rugged clump of rock that was rapidly being undermined by the action of the surf. We observed numerous giant sea turtles swimming near the base of the cliff. The tableland leading out to the Ras is absolutely barren flat rock most of the way.

About two miles north of the Ras, as we headed toward the village of Jiwani, we passed around the west end of two parallel east-west ridges with steep, crumbling sides and flat tops. We stopped beneath three giant banyan trees just in back of the government Rest House (at the south extreme end of the village) for a light lunch. We then walked some 400 yards to the west-southwest to see some old Muslim graves. They consisted of multiple platforms, each higher one being smaller in size. A rectangular structure topped them, and the entire monument was covered with white plaster. The ten monuments, in a single row, were in poor condition, and there was no apparent indication of their precise age.

We then walked back toward the Rest House and continued in a straight line for another couple hundred yards to the southeast corner of the town. There was a very large modern cemetery, jammed with perhaps 1,000 graves each consisting of a rectangular pile of rough stones with a single rough stone placed more or less erect at the head and foot. All the graves were oriented north-south as they must be there to allow the face of the deceased to look to Mecca.

On top of the ridge, immediately south of the present cemetery, we visited a large area also containing Muslim burials. These graves were peculiar in having only a single flat, roughly rectangular monolithic stone laid flat over each of them. The age of those burials was uncertain as was the reason for their different structure from those seen in the modern cemetery.

Failing to find any unreported ancient remains in the area, we went to see the Customs Inspector, Mr. Kamal, who agreed to arrange for a boat to take us to Gwadar the next day. The only thing available would be a sailboat. We questioned two more old-timers in his office. Like every government office we visited in Makran, a coterie of aged men was seated around the official's desk, smoking incessantly, saying little, but always available to advise the government official about local matters. They knew of no ancient remains in the area except the stone circles on Lak Plateau.

On our way back to the bungalow, we stopped again at Lak Plateau to have another look around but failed to find anything significant. Never had I remembered being so tired and miserably sore as when we arrived at the bungalow at 4:30; the others felt the same. We decided to postpone our Gwadar trip for one day to allow us to rest up a bit. Our accommodations were perfectly comfortable, and just one day would not unduly disrupt our schedule.

Wednesday, October 26

We all slept in until after 7:00; sweet sleep but the muscles were still sore, and we all were relieved that we were not going to Gwadar that day. I wrote lengthy letters to Dr. Khan in Karachi and to Dr. Rainey, director of the University Museum. Cuyler and I worked on a sketch map of our exploration of the Lak Plateau. Other than that, plus a little packing for tomorrow, the morning was just restful.

After lunch, Barbara, Safdar, and I went to the beach near the bungalow for a swim (we had brought bathing suits in anticipation of such an opportunity). The water was delightful with a clean sandy bottom, but we had to go out nearly a hundred yards to get into water deep enough for swimming. The swarms of jellyfish

that we had seen on previous days were not present; otherwise it would have been quite foolish to go into the water.

After a very pleasant fresh fish dinner, we were entertained by Mughal who read our palms. He appeared to take it seriously, but it was obvious that he was telling us exactly what we wanted to hear. After he described to us how the lines in our hands constantly change (fingerprints too?), we got involved in a fascinating discussion about fate, destiny, and other such lofty subjects. (Being out in such remote areas often brings on such discussions.) A cool, breezy moonlit evening—a topper for a very enjoyable, though archaeologically disappointing, stay at Jiwani.

Thursday, October 27

At 9:00 the Civil Aviation truck picked us up and took us to the beach just south of Jiwani village where we were introduced to the boat and crew that would take us the forty-five or so miles east to Gwadar. The boat was typical of the small sailing craft called *"hora"* used by many of the coastal fishermen (plate 47). The hull, virtually keelless, was about twenty-five feet long with a six-foot beam. The single mast slanted forward at a considerable angle to allow the movement of the triangular lateen sail. The bamboo boom of the sail was suspended by a single rope from the top of the mast allowing the sail to be swung a complete 360 degrees. Those lateen sails were ancient in origin and had certain advantages given the right wind, but tacking was a very inefficient operation.

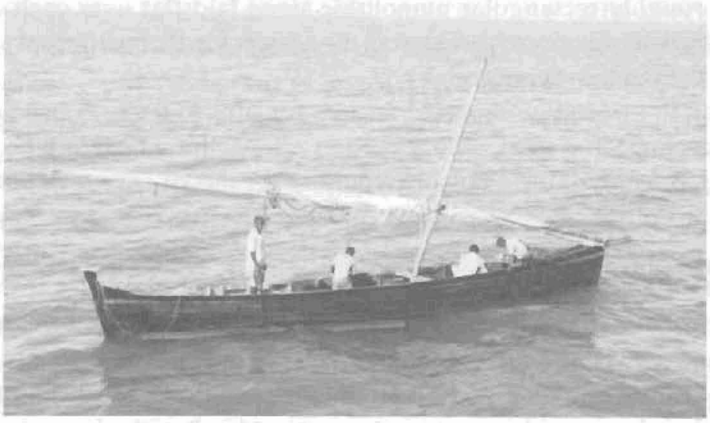


Plate 47 Coastal fishing boat of "hora" type

The five of us with our mounds of baggage, the crew of four, and another passenger fit neatly into the craft (plate 48). A small area just forward of the helmsman, who actually sat on the stern, was covered with a rug and was quite comfortable—at first—for two or three of us at a time, except for the inconvenience caused by the crews water keg being stored beneath the deck boards. There was constant shuffling of bodies.

A plank about twelve feet long was placed across the top of the gunwales just aft of the mast. If the boat heeled over uncomfortably to either side, the plank was pushed out the opposite side and one of the crew crawled out on it to provide a counterweight.

After agreeing to pay 100 rupees ($27.00) for the trip, we shoved off for Gwadar at 10:50. The breeze was weak, and it took an hour and a quarter to get



Plate 48 Sailing from Jiwani to Gwadar

around Ras Jiwani and head east. Just after leaving Jiwani, we came abreast of a larger fishing boat returning from its overnight fishing trip. Our crew yelled for some fresh fish and half a dozen fish were tossed into our boat as we passed by. To our terror, twice during the sail to Gwadar, our crew lit up a charcoal fire in a small brick enclosure on the deck in the bow to cook rice and those fish.

Toilet facilities didn't exist—a problem in any case, but made more difficult with a woman aboard. The procedure was for the person requiring relief to ask the helmsman to go forward so that the relieving could be done over the stern; no mean feat when having to hang on with one hand as the boat rose, fell, and heeled in the ocean swells. All of that required a considerable amount of stomping over us and our baggage. Stalwart Barbara held out until just after sunset. Then Cuyler, Mughal, and I sat in a tightly packed line across the stern of the boat to provide her a bit of privacy. We were extremely grateful that none of us got seasick or, even worse, came down with diarrhea.

Because of the light breeze, we had ample opportunity to observe the coast from a different perspective than we had seen during the previous days (plate 49). The boat stayed close to the cliffs for about half the sail along the Jiwani promontory. After another two hours we were abreast of Ras Ganz and about half a mile offshore. We got quite a different impression of the promontory and its valleys leading to the sea. Take-dap Valleys #1 and #2 didn't look anywhere near as rugged as they actually were. The tilting up of the surface rock tables at the east sides of the valleys was much plainer to see from the sea. Also, between the Take-dap Valleys we saw two, relatively small, incipient valleys that we had not noticed from the land perspective.

Near the sea cliffs of the tilted-up, eastern side of Take-dap Valley #1, we saw through our binoculars the burial cairns that might have been the ones called Take-dap by Stein. Large bushes were in the same area; bushes which we had noted from the top of the cliffs west of that valley the first day of our survey. So, it was quite possible that we had located the cairns after all, but there was no opportunity remaining to examine them.

As we passed Ras Ganz, we could see the little valley where the village was supposed to be, according to the maps, but we could not actually spot it. The coastal range, with its sheer cliffs, gradually decreased in elevation until it petered out into sandy outcrops about three-quarters of the way to Pishukan. Pishukan consists of two, small, uplifted platforms, with cliffs fifty to sixty feet high that form rocky headlands separated by a small pocket beach (Snead 1969:12). The platforms are composed of Pleistocene conglomerates and shelly limestones. The bay is well sheltered from the westerly winds but too shallow for use even by the smallest boats.

By the time we had reached Pishukan—about 6:00 P.M.—we had finally picked up a decent southwest breeze that pushed us the rest of the way to Gwadar Head at a good clip. As the sun set and the breeze picked up even more, the tedious journey was transformed into a delightful moonlit sail. We could hardly have spent a more pleasant few hours. But we missed seeing the coast itself, which between Pishukan and Gwadar is a gently curving, seventy-seven-mile-long, eight-mile-wide bay. The entire bay is treacherous because of its extreme shallowness and because it is an active area for the appearance of mud volcanoes (figure 14). Most recently, a small mud "island" emerged off the coast during the 1945 earthquake (Pendse 1948; Sondhi 1947; Snead 1964, 1967, and 1969).[16]

A damp mist enveloped us as we approached West Gwadar Bay and visibility was almost zero. But the boat struck the sand off the beach at 9:00,

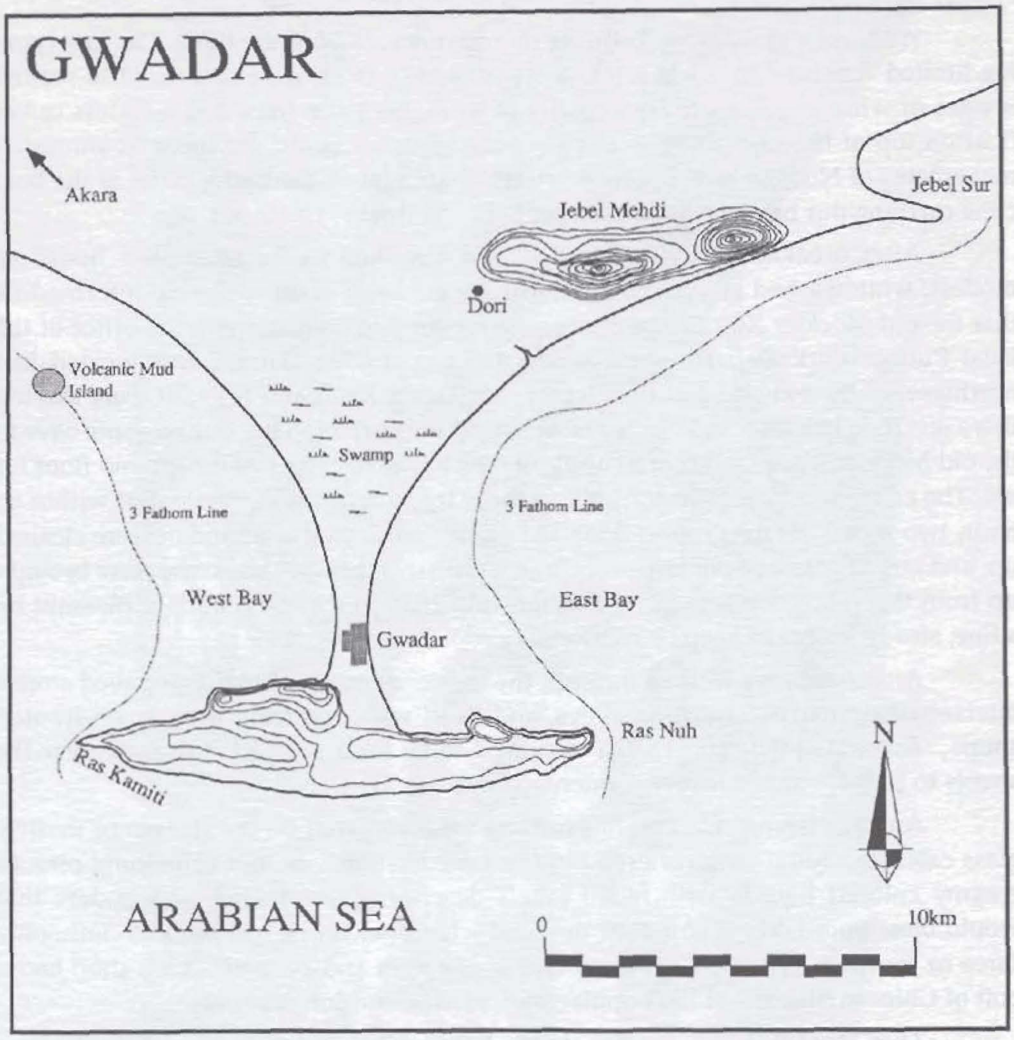


Figure 14 **Map of Gwadar region**

directly west of the old Mockler house—just as we had requested. Because of the shallow water, the sail was hauled in and the boat was pushed backwards as far as possible toward the beach. The tide was out and the surf gentle so we had about fifty feet to wade to the beach. The crew carried ashore our bedrolls and Noor's basic kitchen supplies.

It was too late to contact the tahsildar, so I sent Cuyler up to the old Mockler house to see what condition it was in. When we stayed there during our first nights of the survey, workers were tearing off the roof and generally making a mess. He reported back that its poor condition made it unsafe for us to try to move into it in the dark, so we set up a temporary camp on the beach.

It wasn't long until our miracle-working cook served up a delicious mutton curry and rice dinner, topped off with hot cups of bouillon; then to bed with full stomachs and our imaginations freshly renewed with the excitement of actually being on the Makran coast. Lying on the beach, snug in my sleeping bag, I had a genuine feeling of the "romance of archaeology" that is so glibly talked about in the popular press. It was easy to conjure up images of Harappan ships and of Alexander the Great's navy passing by in the mist.

Friday, October 28

We awoke at 6:30, our bedding thoroughly wet from the mist. The low-lying fog limited visibility on the beach to a few meters, but we were fascinated to see the images of what appeared to be a couple of trunkless palm trees and a legless camel float on top of the fog. Snug in our sleeping bags, we could see the mist-shrouded movements of Noor as he prepared our breakfasts against the background of the boat crew carrying our baggage ashore through the gentle surf (plate 50).

After breakfast, Cuyler, Mughal, and I walked to the tahsildar's house—a modest, whitewashed stone structure with an enclosed courtyard. He informed us that the old Mockler Rest House was being repaired to be made into the office of the local Public Work Department. A new three-room Rest House was located just northwest of the old one, but the district judge from Kalat and his staff were staying there just then (plates 6 and 7). So, he arranged for porters to lug our baggage over to the old Mockler house and sent a couple of men ahead to clean out the ground floor for us. The entire roof had been torn off, so there was a formidable mess. But within an hour, two rooms on the ground floor, the washroom, and the verandah were cleaned up, and large rugs were put in place. Tables, chairs, and even a bookcase were brought up from the village. It was quite a delightful situation made even more pleasant by a fine, steady breeze to keep us comfortably cool.

After lunch we walked through the town: a couple of main, unpaved streets intersected by narrow, twisting alleys, and lined with cramped, little, open-fronted shops. Awnings made from what appeared to be used sails were draped over the streets to provide shade from the intense sun (plate 51).

An astonishing selection of products was displayed on the shelves or in dirty glass cabinets. Some shops offered outdated medications: bottles containing pink or creamy colored liquids with faded labels describing the medicinal wonders that would bless your body if you used the product. Other shops had bolts of cloth, only three or four,that provided a limited choice of colors and patterns. One shop had a bolt of Chinese silk, one of the popular smuggled items along the coast.

Then there were the jewelry shops: bare-walled and unfurnished except for a small glass cabinet at the front of the shop displaying the elaborate gold and silver ornaments characteristic of Baluchistan. The craftsmanship was superb, and the quality of the metals was first rate. Barbara purchased silver bangles and a set of gold earrings, consisting of clusters of gold cubes. The jewelry surpassed in beauty and quality anything in today's markets in Pakistan.

Other shops had metal products that were hammered out on the spot. Also, there were shops full of painted pottery imported from Karachi. Children were ubiquitous—all smiling and curious in spite of their squalid appearance (plate 52).

Tucked in among the buildings in the center of the village, and towering over them, was a circular, whitewashed turret that had belonged to the old Portuguese fort (plate 53). It was topped by a crenellated parapet beneath which were tall, thin gun slots. We were curious to see the inside of the tower because of the description we had read of it in the Baluchistan Gazetteer, but, as happens so often in this part of the world, the only man with the only key was in Karachi, or Kabul, or some other distant locale.

From the village we walked south to the foot of Gwadar Head, the huge, uplifted rocky platform that is connected to the mainland by a five-mile-long sand spit (tolombo). We erred in walking along the beach on the east side of the spit. The



Plate 49 Fisherman making net on way to Gwadar



Plate 50 Morning on the beach, West Gwadar Bay

stench of the fish almost made us turn back. The beach was littered with severed shark heads, whole dead stingrays, and entrails of innumerable other fish—just horrid! The fish processing industry located there could be tolerated only in such a remote place. Farther south along the beach we encountered the salt preparation pans (figure 15, #2; plate 54) where sea water was brought up from deep wells on the spot, poured into waterways that fed into small, mud-sided squares (about six feet square and five inches deep), and allowed to evaporate. Sizeable quantities of pure salt are deposited and then collected into smooth dome-shaped piles three to four feet high. Most of the salt was used locally to cure the fish.

The cemetery (figure 15, #1 and #4)—or rather, cemeteries—are in a dramatic setting with the cathedral-like face of the 476-foot-high bluff serving as background. We examined the old (fifteenth-sixteenth century) Chaukundi-type tomb described by Stein (1931:figure 19). It was identical to those lovely carved stone monuments in the huge cemetery east of Karachi. A high mudbrick wall enclosed part of the cemetery. Within the enclosure, in addition to the graves, was an orange-colored building. We were told that it was an Ismaili cemetery. The two tall, pagoda-like buildings that dominated the village skyline were Ismaili offices. Followers of the Agha Khan appeared to hold the wealth in Gwadar.

Saturday, October 29

Cuyler, Mughal, and I headed out at 8:00 to explore the central and western half of the head. On the way we stopped at the Customs House to enquire about the availability of boats or vehicles for the continuation of our survey, but the Customs officer who might possibly have had such information was not yet in. So, we continued walking another mile and a quarter, past the cemetery and the salt pans, to the start of the steep, winding path that led to the top of the 476-foot-high head. For us, it was a difficult ascent, and we were chagrined when we saw that village women with water pots, and men and small boys with donkeys and water cans did this, with apparent ease, every day.

The head consists of Pliocene-Pleistocene marine conglomerates and shelly limestone. The top surface is virtually flat, dipping down three degrees to the southwest (Snead 1969:12). At the top of the head—the Batel Plateau, described by Stein (1931:73-74; figure 23)—was the only source of sweet water in the Gwadar area. From the top of the path, the rocky surface sloped down gently to the west for about a quarter of a mile where it ended in a veritable oasis, the water reservoir. The infrequent rainwaters would run down the rocky slope and funnel into a narrow valley running south to the sea. Remains of an old dam—Stein suggested that it was probably sixteenth-seventeenth century Portuguese[17] (figure 15, #17; plate 56)—crossed the narrow defile. It was preserved to a height of about six feet. The dam's construction was interesting. The upstream and downstream faces consisted of a single vertical wall of carved sandstone blocks fitted together with tongue-and-groove and other complex joints carved into each block. Between these facing walls, which were about thirty-five feet apart, was rubble fill.

Three modern wells, said to have been dug when Gwadar was ruled by Muscat, were a few yards in front of the uphill side of the dam. Some thirty yards to the north and east of the wells, two new cement spillways and dams that held the rainwater back to form a pool had been built. At the time of our visit, the pool was practically dry, and the locals estimated that the wells had only a few more weeks of water in them—just enough to last until the winter rains would normally begin.

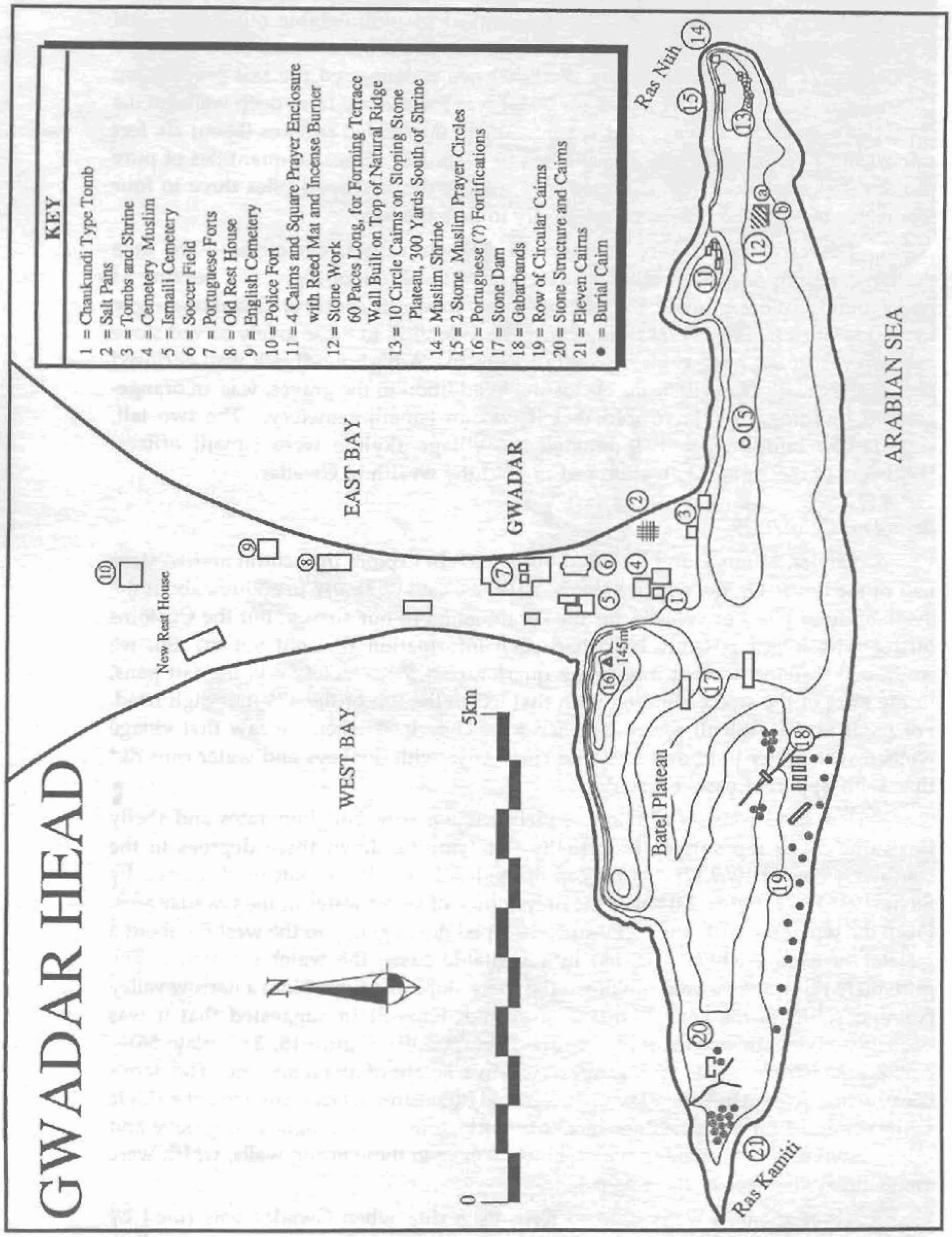


Figure 15 Map of Gwadar Head

Everywhere we have been so far on the survey we have encountered the problem of water shortage. The winter rains have failed in recent years, and the situation is critical.

About a hundred yards downstream from the ancient dam, where the valley cuts through the east-west ridge along the southern edge of the head, another cement dam had been built to capture other runoff. Just above the northernmost dam we saw rather lush-looking agricultural plots, but we were unable to learn who owned them.

The women and girls at the wells each carried an imported Sindi pot on her head. They made the trip to the top of the head daily for water for their families. But the officials and wealthy people in Gwadar paid 8 annas ($0.10) for a five-gallon can of the same sweet water to be brought down by donkeys.

From the ancient dam, we made our way up the valley to the west. After about a quarter mile we split up. Cuyler went to the north to the top of the high east-west ridge from which he explored that part of the head. He followed the coast along the northern edge of the head all the way to the western tip called Ras Kamiti (elevation seventy feet). There the head narrowed down to a thin, rapidly crumbling point. He found no trace of the tomb marked on our maps. Possibly it had fallen into the sea—maybe as a result of the severe earthquake that shook this region in 1945?

Mughal took the center route, continuing westward up the valley in which we had parted company. He also was unsuccessful in locating cemeteries or ancient remains.

I took the southern route which proved to be the most productive. I first crossed over the ridge that formed the southern edge of the valley we were in and started down the gradual descent into the next valley. After about a quarter mile, I noticed ahead of me, to the southwest, a stone wall across the east-west valley (figure 15, #18; plate 55). It was 160 paces long, standing to a maximum height of four to five feet, and was constructed rather carefully with a smooth downstream face. On the upgrade side of the wall was a considerable area of silt deposit. A gap had been made by water at the center of the wall. There was no way for me to ascertain the age of the structure, but its poor condition suggested that it was not being used on a regular basis. It was certainly a "gabarband,"[18] or wall to slow down the rain runoff to the point where the waters deposit their rich silts on the upstream side of the wall. Such structures were not dams in the sense of providing water storage; rather they were used to collect soil for cultivation and were typical of arid areas from the Indus to the Mediterranean.

About twenty paces south of that structure was a stone cairn. A hundred yards or so farther down the sloping surface, at the end of the ridge that formed its southern side, there was a flat area with four more circular stone cairns. Just to the south of those circles, and also to the south of the ridge just mentioned, a thin plateau (maximum width 200 yards) ran the entire length of the western half of the head, just at the top of the sea cliffs. A long row of circular cairns (figure 15, #19)—about twenty—stretches across that plateau. Also on that plateau, at a point almost south of the gabarband just mentioned, I noted five more stone walls (figure 15, #18) that appeared to have the same function. Again, their age was uncertain. The coastal plateau was relatively green, and to my surprise I saw a herd of grazing cattle.

Walking westward from the first of the gabarbands, I came to an immense plateau which dropped off sharply to the south to the coastal cliffs. Just at the

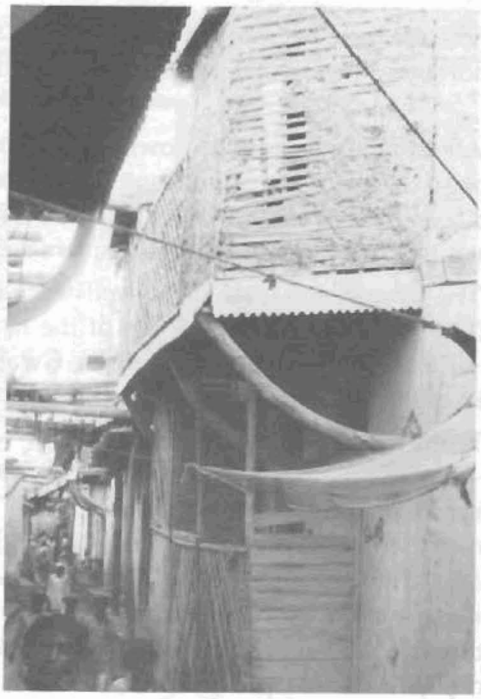


Plate 51

Gwadar bazaar

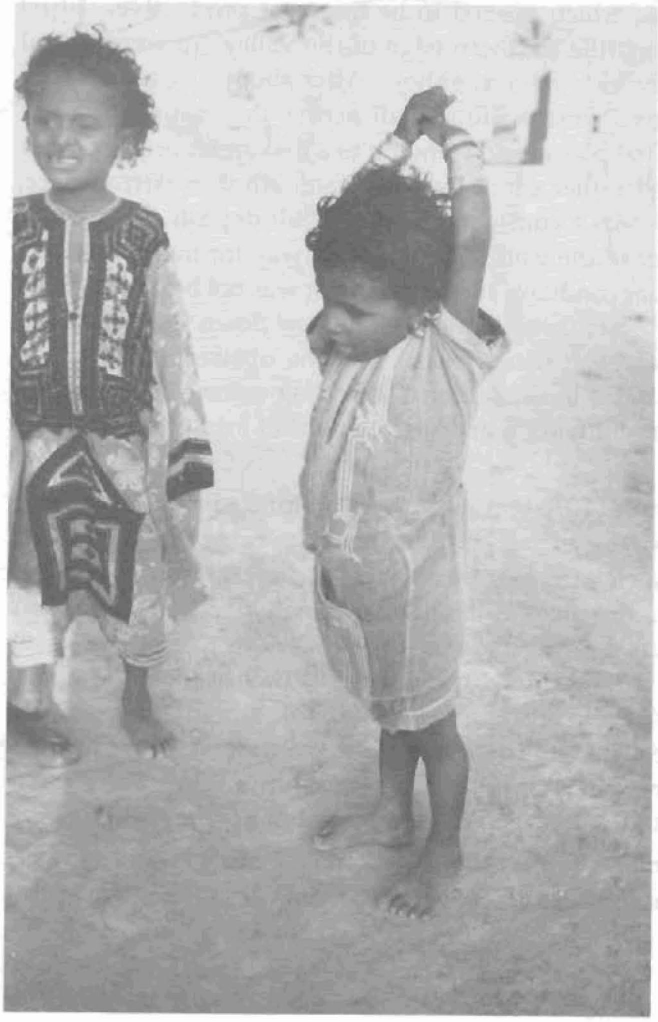


Plate 52

Village children of Gwadar

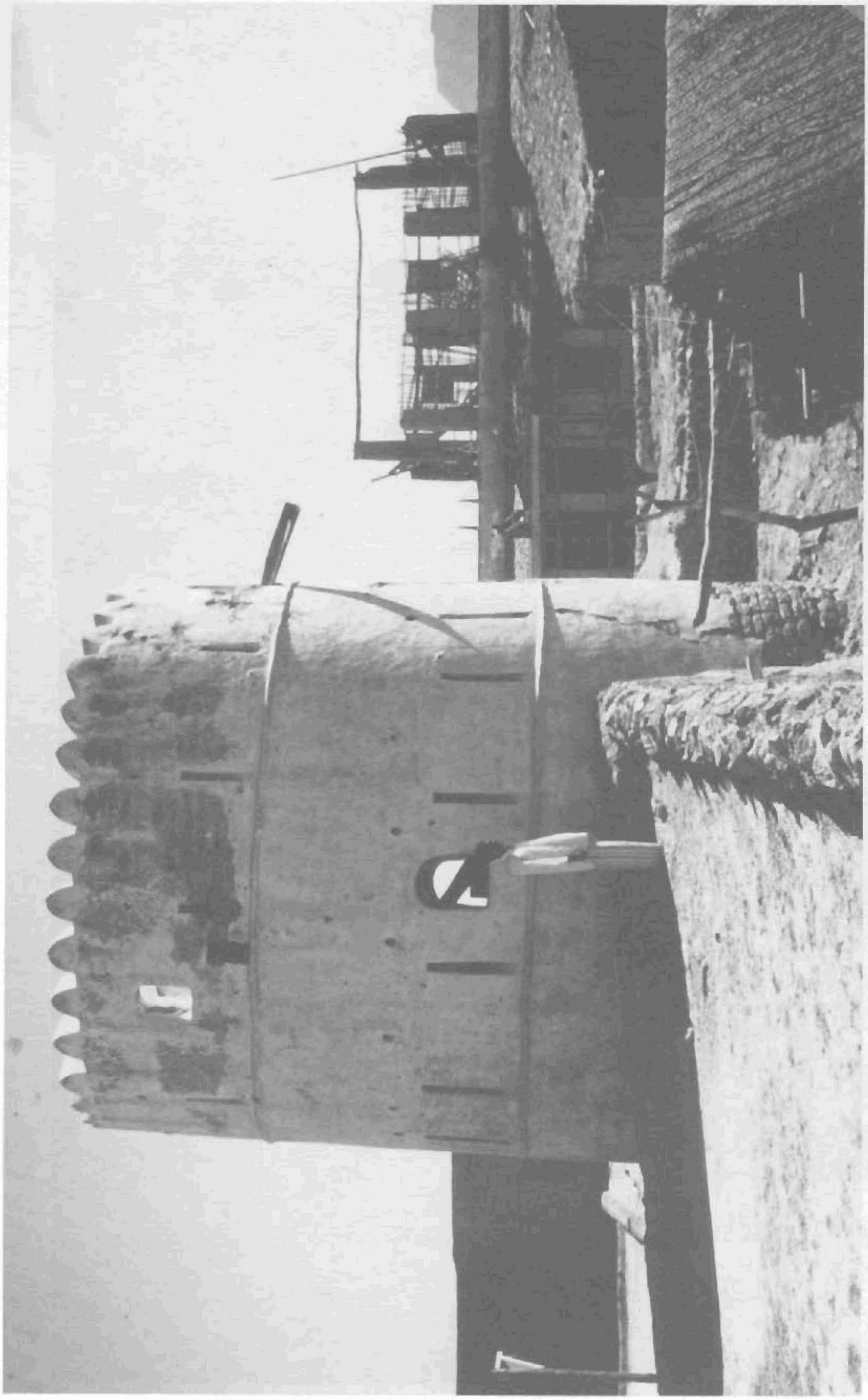


Plate 53 Portuguese Fort at Gwadar

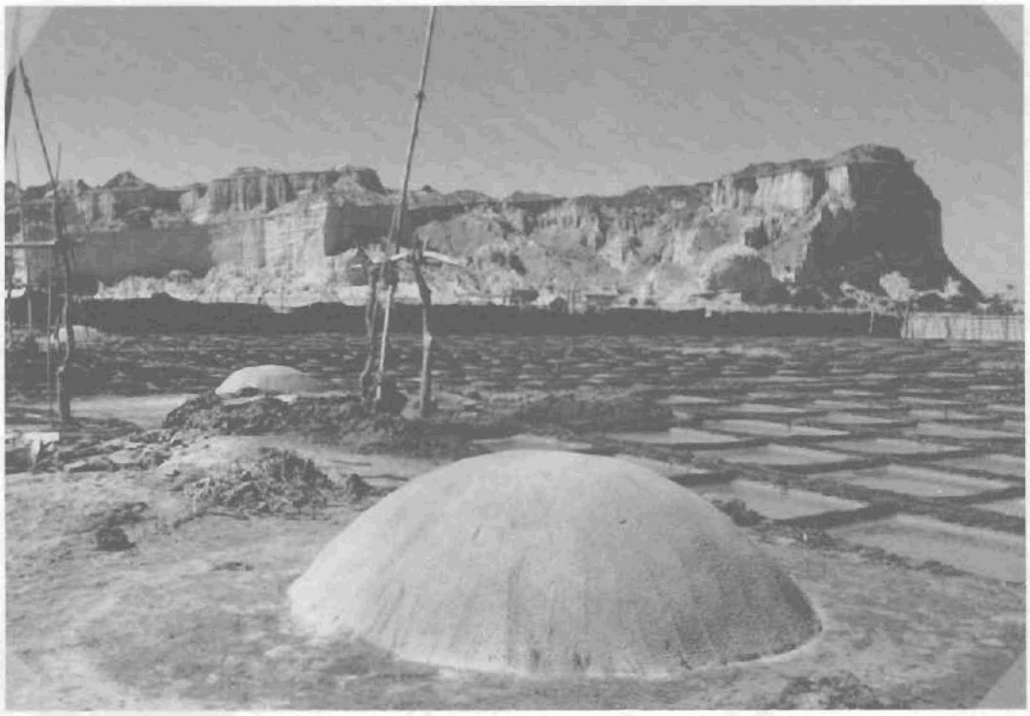


Plate 54 Salt pans, Gwadar Head in background

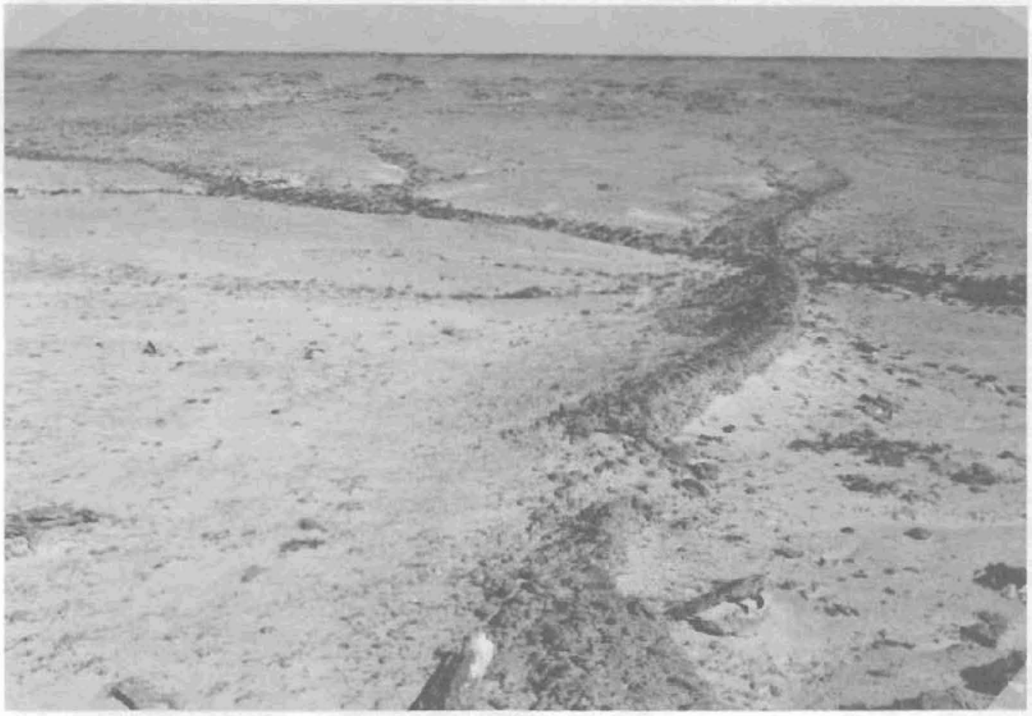


Plate 55 Gwadar Head: "Gabarband"



Plate 56 Gwadar Head: Remains of Portuguese(?) dam

edge, where the surface dropped down to the coastal plateau, I saw remains of ten more circle cairns. Some of them had been partially dismantled by geodesic surveyors to provide stones for a temporary bench mark.

Continuing in a westerly direction, I reached a point even with the end of the high ridge that formed the northern limit of the grazing lands. A small, steep valley cut into the head at that point, to the south of which Ras Kamiti jutted out to the west for another half mile. At the top of that steep valley stood a curious stone structure (figure 15, #20). It measured 15 by 6 paces with the long axis running east-west and a doorway midway along the south wall. About thirty paces east of that structure, I saw the poorly preserved remains of what might have been circular cairns.

On top of Ras Kamiti itself, 700 to 800 yards from the tip, I noted eleven more cairns (figure 15, #21). Just as Cuyler reported, the tomb indicated at the west end of the head on our nautical chart was not to be found, and possibly no longer existed.

By about 4:30, we were again back at the Rest House. We went to the Customs House, but it was closed for the day. So, at about 5:00, Barbara, Mughal, and I went to the Customs Mess to see Nazir Ahmad, the deputy superintendent of Customs, Kalat Division, whom we had met in Jiwani. He offered to make the Customs jeep available at 8:00 the next morning to take us to Gatti where Stein had reported burials. He also promised to arrange for a boat to take us to Pasni.

In the evening, a police officer came to visit. He was one of three police stationed in Gwadar to keep an eye on the Customs people who in turn were there to keep an eye on smuggling. Our visitor, a Punjabi, was unusually open in his conversation. He told us that they were on special assignment and earned 150 rupees per month (about $31.00). From that, they had to pay for their own food, water, and transportation. They had no vehicle so they had to hire a camel. A good riding camel rented for 150 rupees per month, so the government in effect was saying that a policeman on special assignment was worth one camel. He said that he hated it in Gwadar. He complained bitterly about the lack of food (he couldn't eat fish), and he couldn't understand the local language.

Sunday, October 30

The Customs jeep didn't arrive until 9:30. The driver was new from Karachi and hadn't the slightest idea about off-road driving. Another man from the Customs Office was sent with us as "guide," but he proved to be more trouble than help. He had lived in Gwadar most of his life but didn't know the location of a village—Gatti—only six miles away according to our maps. We discovered, after considerable argument, false starts, and winding around aimlessly that Gatti was now merely the name for the wooded area at the northwest end of Jebel Mehdi and that no active village remained there. A small grass hut settlement called Dori was in the plain just southwest of the western end of the Jebel. A fellow there told us that the people from "Old Gatti" now lived in Dori.

Just north of the Dori huts (they were scattered over a considerable area) was a string of low sandy foothills associated with the Jebel. A group of palm trees grew on the northern side of the foothills near a rather large cultivated area. The one set of "dambs" we were seeking was not far from that area, as we learned later. We encountered the ruins of some brick buildings about three-quarters of a mile due west of the Jebel. Those must have been all that was left of "Old Gatti" (see sketch map).

Stein's description gives the impression that he followed along the north face of the Jebel for one mile to reach the first set of "dambs." We figured that he

meant one mile from the now ruined buildings of "Old Gatti." We located about two dozen circular cairns. Most of them were on top of two formidable ten-foot-high terraces, but some of them were off the terraces. Between these cairns and the Jebel were small cultivated areas. Numerous other small cultivated areas and scattered trees could be seen around the western and northern sides of the cairn plateaus and extended for over a mile to the north.

To the east of the cairns, along the northern face of the Jebel, is a fantastic mass of severely eroded mud foothills with sheer vertical cliffs (plate 57). In order to search that area more thoroughly, we managed first to get the jeep back to Dori. Then we found an east-west vehicle track and turned east. After 2.7 miles, we cut to the south off the motor path and headed for the north side of Jebel-i-Mehdi. We were driving along the west edge of a fairly thick concentration of trees when, after only a few hundred meters, we had to abandon the jeep. The ground was laced with small dirt "bunds" used to direct water through the cultivated fields.

We walked straight to the base of the Jebel, directly below its highest point (elevation 1,344 feet). The Jebel is a deeply dissected, uplifted platform, mostly of soft Pliocene mudstones (Snead 1969:16). The first half of the walk was through the cultivated fields. Then we got into the area of strangely eroded foothills with piles of grey, mud-like substance topped with shattered pieces of clinkery sandstone. Those piles got higher and steeper as we neared the base of the Jebel. We climbed to the top of one the piles, some thirty feet high, and searched the surrounding area with our field glasses. No trace of cairns or structures was seen. But we still wanted to explore the area on the ground. At the base of the Jebel, we split into three groups. Each would take a different route back to the jeep.

Cuyler went way out to the northeast and then to the west along the northern edge of the spectacular erosions. He found nothing—certainly not the cairns reported by Stein to be three-quarters of a mile northeast of the Jebel's high point. Barbara and I headed due north and found nothing. Mughal went west, along the northern face of the Jebel to the reported location of the cairns mentioned above, but found nothing new. So, again, we were puzzled by the discrepancies among the maps, Stein's descriptions, and what we were actually able to locate. We returned to the Rest House for an afternoon break.

In late afternoon, Barbara and I walked to the village bazaar. She had ordered a typical Makrani "house dress" to be made for her.[19] Then we went to another shop to buy some jewelry to go with the dress. The Makrani women wear abundant quantities of jewelry—heavy, stone-inlaid pendants hang from the center of their noses and elaborate solid gold discs are in each side of the nose. In addition, they wear at least one set of gold earrings. Some of the women and girls have multiple sets of simple gold rings piercing the entire rim of their ears. I had never seen multiple earrings such as these. I was especially fascinated with them because they reminded me of the terra-cotta female figurines from ancient Syria that date back to the early part of the second millennium B.C.

Gold broaches are used to secure the neck of the Makrani dresses. Many of the necklaces are made of alternating sets of polished stones and variously shaped gold beads. One of the most popular types of gold beads is identical in form to the ribbed, ball-shaped ones used by Mesopotamian Sumerians during the Ur III period (about 2100-2000 B.C.). Gold finger rings are also worn, sometimes inlaid with stones. The arms of women and girls are replete with bangles: many made of silver, but others of simple, colored beads.

On our way back to the Rest House, we stopped in at the Customs Office for a chat. We learned to our distress that the spread of the cholera epidemic in Pakistan had forced the stoppage of the coastal commercial shipping that had resumed just weeks ago at the end of the monsoon season. We were told that 500 people had died in Panjgur in inland Makran. They added that no ships departing from Karachi after November 1 and destined for other countries would be permitted to stop along the Makran coast. As yet, no cases of cholera had been reported in Gwadar or Jiwani, but many families in those communities were writing letters for tickets to board the last scheduled ship—a British-India Steamship Line steamer—that was due from Basra on November 1.

Our newly acquired police friend came to dinner. We got into an intense discussion centering around his perceptions, as a devout Punjabi Muslim, of 'love', marriage customs, and the position of women. Barbara, understandably bothered by what was to her sexist talk, had difficulty restraining her urge to throw the teapot at him.

Monday, October 31

We were all quite tired, as well as discouraged, and opted for a leisurely morning. At 9:00 we all went to visit Nazir Ahmad, the Customs superintendent, to inquire about transportation to Pasni. He called in the owner of a motor launch who told us that his engine was bad. He said he would talk with other launch owners and try to find one for us. If no launch could be found, we would have to take a sailboat again. We didn't want that. It was an eighty-five-mile trip, and there was a good chance of getting becalmed now that the monsoon winds had abated.

To make use of the spare hours we had, we went to the bazaar again and made some small purchases. Then, all of us visited what remained of the old Portuguese fort in the center of the village. It was in the midst of the Ismaili compound which was like a settlement within a settlement. The Ismaili community had its own dispensary, school, and shops as well as its own walled cemetery which we had seen on our first day in Gwadar.

When we first visited the bazaar, we had seen only the thirty-foot-high circular tower of the fort, but there was an even higher rectangular tower. Stone foundations of the rest of the fort were visible at many places within the compound. It was exciting to wonder if even earlier occupations than the Portuguese were buried there. The circular tower consisted of two storeys. The first storey had four cannon ports and a series of very narrow gun slits. Two cannons, we were told, were still inside the tower. We were shown one of the balls—about four inches in diameter. The second storey was actually the walled-in roof of the tower, also with four cannon ports and more gun slits. It provided a commanding view of East Bay harbor. The rectangular tower, with unbroken battered walls, had been repaired during the period of Muscat rule. They told us that an old well and a pit where prisoners had been kept were inside. Unfortunately, the man with the keys to both towers was still said to be in Karachi.

Tuesday, November 1

Our adventures are starting to take their toll. We are all quite exhausted. Cuyler has a nasty infection in his eye. But at 9:00, Mughal and I trudged off toward the eastern end of the head. Cuyler and Barbara had made plans, through the

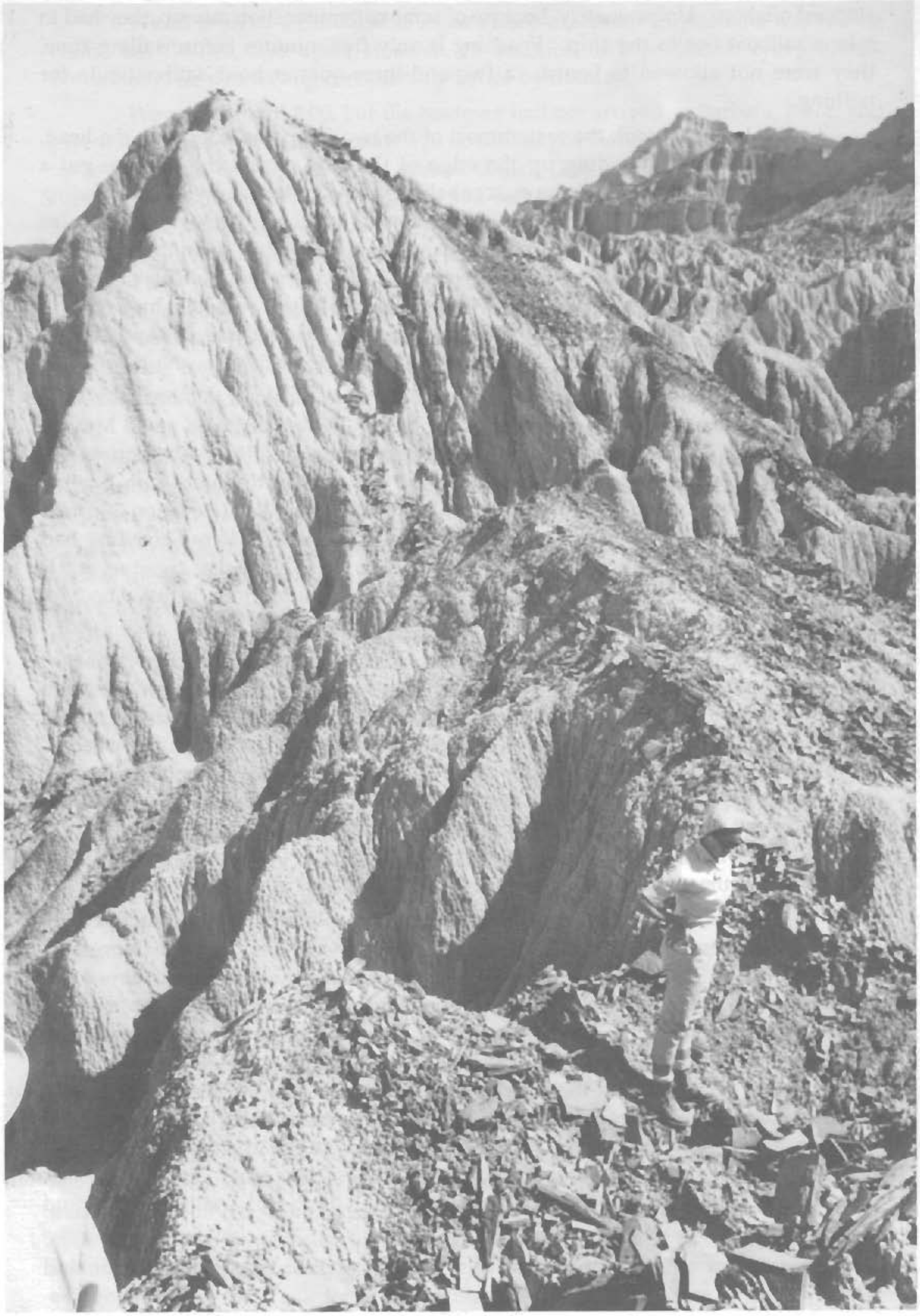


Plate 57 Gwadar Head: Jebel Mehdi

Customs Office, to be their guests for a visit to the British-India steamer that had stopped offshore. Unfortunately, because of some communication mix-up, they had to take a sailboat out to the ship. Reaching it only five minutes before sailing time, they were not allowed to board: a two-and-three-quarter-hour sailboat ride for nothing.

Mughal and I took the easternmost of the two footpaths leading to the head, a steep, narrow path winding up the edge of the cliff. From the top, we got a beautiful view of Gwadar and the crescent-shaped bays of the sandy isthmus fading away into the dusty haze of the mainland. We split up to explore as much area as possible. I went to the southern edge of the intermediate plateau and also walked over the narrow coastal plateau. There were basically three levels of plateaus with several smaller ridges and ramps. The northern plateau was the highest and dropped off sharply into East Bay. The intermediate plateau was flat and barren, and the coastal plateau was narrow but widened as it approached Ras Nuh.

Near the Ras, the coastal and intermediate plateaus blend into one and slope up gently to the ridge at the very end of the head. There I visited a small Muslim shrine (figure 15, #14) and the remains of another recent building. The shrine was actually a miniature mosque, large enough for one person to enter, with a small enclosure in front on the eastern side. The entire end of the Ras (elevation 280 feet) was severely cracked and fissured as if by an earthquake. Large sections had collapsed into the sea and many more were about to do so. The tiny mosque, and a stone surveyor's bench mark, were on a section that was cut off from the main body of the head by those cracks and fissures.

I located ten circular cairns (figure 15, #13) on the sloping rock plateau about 300 yards south and south-southwest of the tiny mosque. They were in poor condition and appeared empty. No pottery sherds were found. A similar stone circle (figure 15, #15) with a doorway in its eastern side was some fifty yards west of the tiny mosque. It is obviously a Muslim prayer circle. Another obvious prayer circle was at the base of the high northern plateau, just east of where Mughal and I had parted ways. Mughal found yet another prayer enclosure—rectangular with a reed mat and an incense burner inside—together with four more stone circles on top of the high point halfway along the northern ridge (figure 15, #11).

In a small valley between the high northern plateau and the intermediate one, a well-preserved stone wall runs north-south across the floor of the depression (figure 15, #12). Some sixty yards long, it stands five feet high in the center. At its midway point is a carefully constructed, rectangular opening from the base of the wall up to about half its height—possibly a sluice gate? A considerable amount of silt was deposited on the upgrade side of the wall forming a terrace as wide as the wall and extending back up the valley about a hundred yards. The structure is an excellent example of a gabarband whose age is undeterminable without considerable research. Remains of a stone wall were seen in back of the gabarband along the top of the natural ridge that formed the southern side of the small valley. It was considerably higher than the top of the gabarband. Both this wall's function and age are undeterminable.

From Ras Nuh, we got a fine view of Gwadar East Bay, Jebel-i-Mehdi, and Jebel Sur farther east along the coast.

In the evening we visited Nazir Ahmad again to discuss the boat situation. He promised to send a boatman to see us the next morning to make arrangements for our trip to Pasni.

Wednesday, November 2

We all enjoyed a comfortable night's sleep except for Cuyler who was having chills, hot flashes, and upset stomach, in addition to a persistent eye problem. Fortunately, he was feeling considerably better by midday.

We waited until 9:00, but the boatman had not arrived so Barbara, Noor, and I went for a final visit to the bazaar. We no sooner got there than men started coming up to Noor and asking him if we needed boats. One man offered his boat for 500 rupees. Then, the same man whom we had met in the Customs House several days ago and who had said that his boat's engine was bad offered to take us for 350 rupees ($73.50). He explained, "Please don't believe what I said about the bad engine; I only said that because I did not want the Customs people to know that my boat is in shape for long trips. They always want to take our launch on long fishing trips without paying." A deal was finalized with him, and we arranged for the bulk of our supplies to be loaded on his boat that evening. We would leave for Pasni at the crack of dawn.

That left us with more than half the day free to follow up a lead that Mughal had gotten from a chap in the bazaar about some ruins on top of the highest plateau on the head. We had not gone up there before because we had assumed it was just barren waste cut deeply by erosion and uninhabitable.

We visited extensive remains of what was possibly a Portuguese fortification system (figure 15, #16 and figure 16) that commanded West Bay. The stone wall had a five-foot-wide gateway and what appeared to be gun slits placed at angles that would have provided an efficient crossfire. A sizeable population would have been required to construct and maintain such a defensive structure plus the large fort in the center of town. It would be interesting to investigate more carefully the period(s) of construction of the gabarbands and of some of the circular stone cairns. Were some of them what are called *sangars*, the small fortified locations for riflemen? Some of them were clearly Islamic prayer circles and may have belonged to a local Muslim population working for or with the Portuguese. It seemed less likely that they were really ancient, dating to the first millennium B.C. and related to the arrival of the Aryans as Piggott (1950) and others have suggested.

Thursday, November 3

At 7:30 A.M. we boarded our chartered launch for the eighty-five-mile trip to Pasni. The launch was thirty-five to forty feet long, open, and had a flat, canvas sunshade roof over the stern. Its diesel engine would propel the boat, according to the captain, at an average speed of seven miles per hour. The Customs people at Gwadar had told us the trip would take five or six hours, but it actually took us eleven and a half. Thank god we didn't have to take a sailboat. All day long there had been hardly a breeze. We passed several fishing boats that were helplessly becalmed.

We got a fine view of the 600-foot cliffs of Jebel Mehdi and then, after just a few miles, a view of Jebel Sur. This promontory of weak Pliocene mudstones rises to a maximum of 516 feet, dipping 45 degrees to the south, so that the steep, wave-cut sea cliffs rise to only 400 feet (Snead 1969:16). From Jebel Sur eastward, the coast curves inland and then runs nearly straight for forty-one miles. The coastal plain shows evidence of uplift on the order of ten to fifteen feet: uplift that may have occurred as recently as the 1945 earthquake (Snead 1969:16).

At about noon we passed the mouth of the Save River Valley. We thought at first that it might be a good place to investigate, but on closer look we decided

against it. It was not a likely spot at all when we considered the relative convenience of landing at Gwadar or Jiwani. The 400- to 500-foot-high cliffs between Ras Kappar and Ras Shahid were awesome: sheer, utterly barren witness to the dramatic uplifting of the coast that has altered the entire topography. Between Ras Shahid and Ras Shamal Bandar, the cliffs are quite eroded resulting, as at Takedap and other places, in the same fantastic, eroded mud formations that we had seen first near Jiwani. A huge section of cliff, probably half a mile long, looked as if it had recently fallen into the sea.

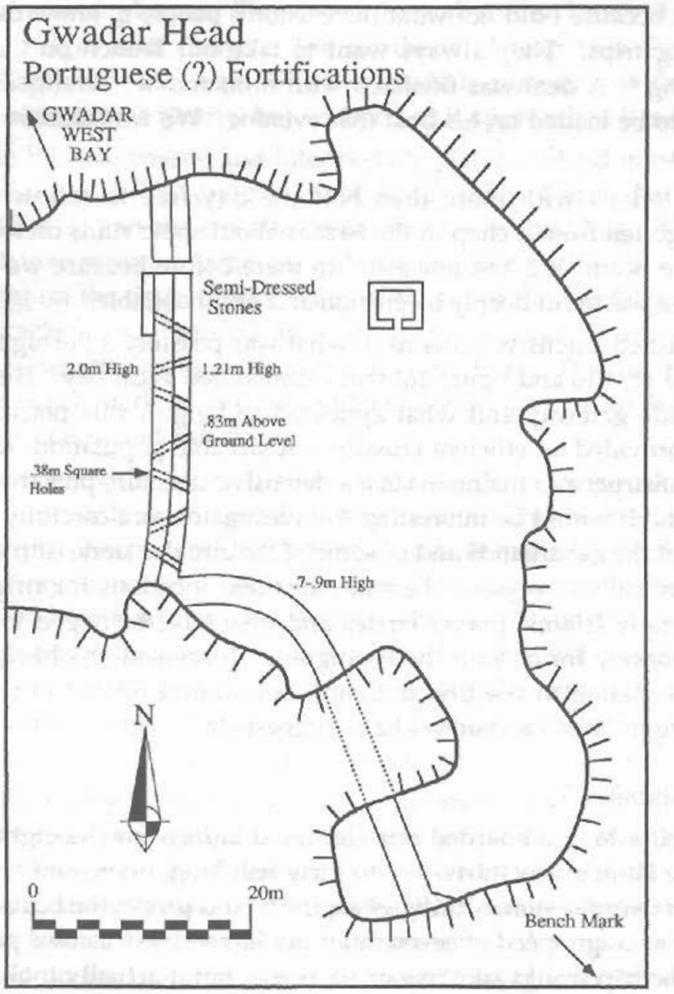


Figure 16 **Map and Plan: Portuguese(?) fortification on Gwadar Head**

Ras Shamal Bandar, another of the coastal platforms that rises dramatically, is 600 feet high. Looking back to the west from Ras Shamal Bandar, we could still see Jebel Sur and Jebel-i-Mehdi, but not Gwadar Head. To the east, Jebel Zarain was clearly visible. The shoreline east of Shamal Bandar goes for about thirty miles in almost a straight line. It exhibits signs of ten to fifteen feet of recent uplift, the steep cliffs petering out gradually to a low, flat coastal plateau with a fairly wide beach strip. As we approached Pasni promontory, the low plateau blended off into a long stretch of high, rolling sand dunes whose inexorable easterly advance has long plagued Pasni.[20]

Two rocky outcrops provide the stabilizing tip for the Pasni peninsula: both consist of Miocene and Pleistocene mudstones, conglomerates, and shelly limestone. The southern-most, Jebel Zarain, rising to 416 feet, has no hard stone plateau and is eroding dramatically. Ras Jaddi, the eastern point of the peninsula, is only about a hundred feet high.

It was sundown as we rounded Jebel Zarain. Later, a full moon offered us a fleeting look at Ras Jaddi. All in all it was a rather enjoyable trip if you ignored the fact that the launch was leaking at the rate of thirty gallons an hour.

We had to skirt way to the east to get around a long sand spit that ran east from the Ras (figure 17). The only anchorage was on the east side of the peninsula and it was shallow, like all anchorages along the coast: one and a quarter to one and a half miles from shore and three to three and a half fathoms deep. But with our small fishing boat we were able to move in to about a hundred yards from the beach. It was completely dark except for the moonlight. Flashlight signals were sent back and forth between our crew and someone on the beach (one of the Customs officers, we found out later). After fifteen minutes of nothing more than the intermittent flashlight signals, and having received no word that a boat was being sent out for us, we decided to make use of our inflatable rubber raft for the first time. Mughal and I rowed to the beach to the amusement of our launch crew. Just as we grounded, a large wave broke over the stern and drenched us. Some Customs people came down to meet us thinking we were a ship in distress; otherwise they would not have bothered until morning.

After we introduced ourselves, all was well, and they gave us permission to disembark. They claimed they had not been informed of our arrival. The Department of Fisheries man to whom I had sent a cable from Gwadar was, at the moment, in Karachi (like the man with the keys!) and had left no message. They sent a small boat out to the launch for the rest of our team and all our supplies. The main part of the government Rest House was occupied by a group of nine zoologists from Karachi University, so they put us up in a second room with front and back porches and a shower room. We celebrated our arrival with a canned ham and fresh egg curry. The night was cool and fine for sleeping.

Friday, November 4

Early accounts of Pasni were not flattering (see footnote 20). Hughes (1878:161) describes it as "an insignificant seaport . . . seated upon a few low sand-hills . . . and having not more than 70 houses, with a population of 200 souls, principally Kalmattis. The houses are mostly constructed of mats held together by poles. There is a mud fort, and in Goldsmid's time (1863) two houses only in the place. The trade of this small port is very inconsiderable, and the people are wretchedly poor."

This is in sharp contrast to the Pasni of today. There is now an important fish processing industry and the road north, up the Shadi Kaur Valley, provides one of the best coastal accesses to inland Makran. On the other hand, the village—about two and a half miles northwest of Ras Jaddi, is constantly threatened by the advancing fifty- to sixty-foot-high sand dunes as well as by the earthquakes and tidal waves that periodically ravage it.

We spent all morning talking with officials and local men, making arrangements for our survey in the Pasni area and for our ongoing trip to Ormara. First we went to visit the tahsildar in his home. He proved to be a pretty ineffectual person: one of those "yes, yes, certainly, of course" persons who forgets everything you said as soon as you leave. He promised to see about arranging a boat to take us to

Ormara and to provide us with local informants. We felt even less assured of assistance when we went to see him again in his office later in the morning.

Just like the Customs people in Gwadar, the Pasni officials didn't seem to know much about what was going on or, perhaps, they just didn't want to cooperate. We were told emphatically that no motor launches were available. So, we went to the Fisheries Department offices. They occupied a new, quite elaborate building with large rooms and a good-sized, well-lighted laboratory. The staff was conducting statistical studies concerning the quantities of sea life available for the fishing industry. The head man, to whom I had a letter of introduction from Central Fisheries in Karachi, was—like many of the key persons we wanted to see—in Karachi just then.

The man temporarily in charge, and a couple of his staff, were interested and helpful. For our exploration just north of Pasni, we were promised the use of one of their two jeeps (one had recently been given to them by US-ICA). The man in charge also promised to arrange a launch to take us to Ormara. The Fisheries Department there did not own a launch of its own but had some control over the local Fishermen's Cooperative Society.

We returned to the tahsildar's house again. He called in a few elderly local gentlemen. Mughal questioned them extensively. One of the men, Mir Ahmad Khan Kalmati, was head of the Kalmati tribe (some 1,000 people) that dominated the population of the area.[21] He told us about five sites within six or seven miles to the north of Pasni. One of them, along the Shadi Kaur Valley, was covered with pottery that, according to his description, could be Harappan. The site even had a local Baluchi name—Sotkha Koh—equivalent in meaning to that of Sutkagen Dor, i.e., "burned tepe/damb/mound." We were excited at the prospect of making at least one major discovery of a Harappan site. Otherwise, except for our work at Sutkagen Dor, we were feeling silently disappointed in the results of the expedition so far. Mir Ahmad Khan also told us about the remains of a town near Pasni that had been destroyed by the Portuguese. Arrangements were made for the jeep to take us to those places on Sunday.

At noon, the boatmen who had brought us from Gwadar, appeared for their baksheesh (pay). They had to beach their boat last night in order to repair the leak in the hull. We made a deal with them (100 rupees) to take us out to Astola (also called Haptalar) Island the next day. We were anxious to visit the place because it features in the story of Alexander the Great's return from his India expedition.

In the afternoon we started hiking out to Ras Jaddi to see the Muslim tombs that had been reported there by Henry Field (1959:77). But, we got only about three-quarters of a mile south of the village when we were stopped by, of all things, surface water. Numerous little streams and pools blocked our way: water apparently left there from high tide. So, we backtracked halfway back to the village and took another route.

The sand south of the village was paved with oyster shells left by birds. In one of the tidal pools we saw a sizeable group of flamingo-like birds—white with long red legs. Pakistan is on a major north-south migration route and offers many opportunities to see literally thousands of birds in the sky or at pools and lakes. The sand dunes just back of Pasni—to the west—were spectacular: a mountain of sand, fifty- to sixty-feet high, just waiting to pour down over the village. The village (7,500 people according to the tahsildar) was built on and among smaller dunes. Small oases of palm trees and huts were nestled among the sand hills to the south

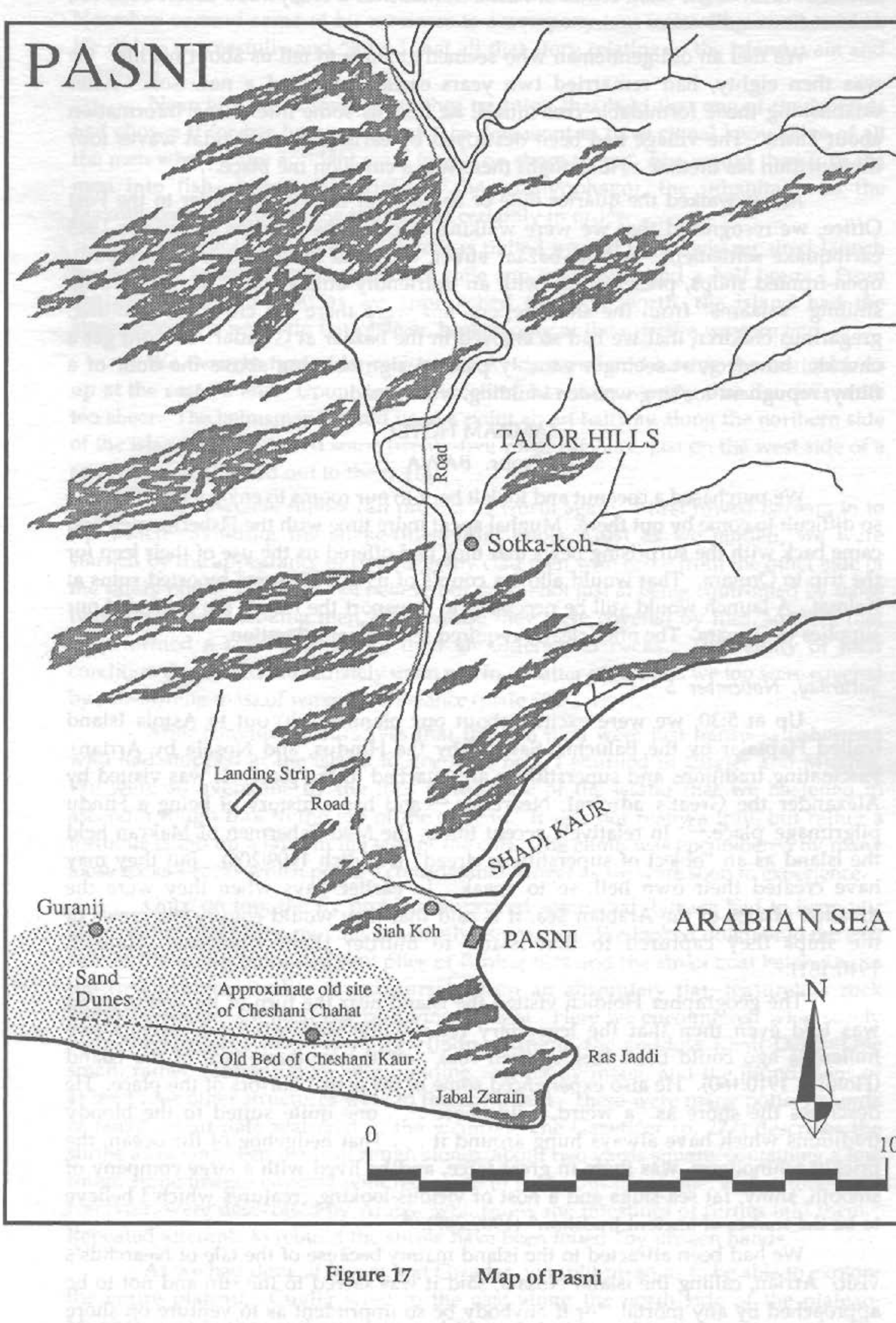


Figure 17 Map of Pasni

and southwest of the main center of Pasni. It made for a Hollywood desert oasis set, at least from a distance.

We met an old gentleman who seemed anxious to tell us about his life. He was then eighty, had remarried two years earlier, and had a new son. After establishing those formidable credentials, he told us some interesting information about Pasni. The village had been destroyed by earthquake and tidal waves four times within his lifetime. He thought there was a curse on the place.

As we walked the quarter mile or so north of the village center to the Post Office, we recognized that we were walking through the remains of the pre-1945 earthquake settlement. A lone bazaar street, occupied by only a few jerry-built, open-fronted shops, presented us with an unfriendly atmosphere. There were no smiling "salaams" from the shopkeepers, nor were there the crowds of smiling, gregarious children that we had so enjoyed in the bazaar at Gwadar. We did get a chuckle, however, at seeing a gaudily painted sign hanging above the door of a filthy, repugnant-looking wooden building, which read:

ZAMZAM HOTEL
Propr. BAWA

We purchased a coconut and took it back to our rooms to enjoy a new flavor—so difficult to come by out there. Mughal spent more time with the Fisheries men and came back with the surprising news that they had offered us the use of their jeep for the trip to Ormara. That would allow a couple of us to visit some reported ruins at Kalmat. A launch would still be necessary to transport the rest of the team and our supplies to Ormara. The offer clearly required serious consideration.

Saturday, November 5

Up at 5:30, we were excited about our planned trip out to Astola Island (called Haptalar by the Baluchis, Satadip by the Hindus, and Nosala by Arrian). Fascinating traditions and superstitions are attached to the place. It was visited by Alexander the Great's admiral, Nearchus,[22] and has a history of being a Hindu pilgrimage place.[23] In relatively recent times, the Med fishermen of Makran held the island as an "object of superstitious dread" (Holdich 1909:206). But they may have created their own hell, so to speak. In earlier days when they were the dreaded pirates of the Arabian Sea, it is said that they would convey the crews of the ships they captured to that island to murder them wholesale (Holdich 1910:161).

The geographer Holdich visited the island near the turn of the century and was told even then that the legendary relic of the ship lost by Nearchus two millennia ago could been seen at "sail rock" off the southern face of the island (Holdich 1910:160). He also experienced some of the actual horrors of the place. He describes the shore as "a weird, wild shore . . . one quite suited to the bloody traditions which have always hung around it . . . That hedgehog of the ocean, the prickly echinoderm, was there in great force, and he lived with a large company of smooth, shiny, fat sea-slugs and a host of vicious-looking creatures which I believe to be the snakes of ancient tradition" (1909:207).[24]

We had been attracted to the island mainly because of the tale of Nearchus's visit. Arrian, calling the island Nosala, said it was sacred to the sun and not to be approached by any mortal, "or if anybody be so imprudent as to venture on shore there, he immediately disappears, and is seen no more." But Nearchus chose to defy the superstitions and despatched one of his small galleys, manned by Egyptian

mariners, who "having entered the island, vanished out of sight." Undaunted, Nearchus coerced some of his mariners to accompany him in landing on the island. He did so successfully and "found that all that story relating to the island, vain and fictitious."

Nearchus heard then of another tradition that held that one of the Nereids had chosen it for her home and that "she was wont to have carnal knowledge of all the men who by any accident were forced on shore there." She would then turn the men into fish—hence, the origin of the Ichthyophagoi, the inhabitants of the Makran coast. A visit to the island was certainly in order.

It was 6:45 before the anchor was pulled up and the newly repaired launch headed out to sea. The twenty-three-mile trip took three and a half hours. From the vantage of the boat as we approached from the north, the island had the appearance of a perfectly flat plateau, broken only at the extreme western end.

We thought first of landing at the western end and having the boat pick us up at the eastern end. Upon closer inspection, however, we saw that the cliffs were too sheer. The helmsman steered us to a point about halfway along the northern side of the island and anchored some twenty-five yards offshore, just on the west side of a sandy spur that jutted out to the north.

Our inflatable rubber raft proved its worth again. I first rowed Barbara in to the beach—avoiding the snake-filled tidal pools. Just as we landed, we were startled by the appearance of two raggedly clad men who came from the other side of the sandy point. We could not believe our eyes—not just at being confronted by those two rather fierce-looking men, but because they were covered by flies, so thick that they formed a solid mat across their shoulders and backs. The reality of their condition descended immediately upon us. In a matter of seconds we too were covered by a swarming mass of winged annoyance (plate 58).

After convincing ourselves that the two men were just harmless fishermen who had stopped at the island to dry their nets, I shuttled in Cuyler and Mughal. We were so overcome by the flies at the base of the island that we hastened to ascend a rough trail to the top of the plateau. It was not really a trail, but rather a tortuous climb up a fault in the face of the cliff. The climb was encumbered by many loose rocks—rocks which posed a considerable danger as we were soon to experience.

Once on top, the fly problem improved somewhat, but we had to keep our faces covered and keep moving as actively as possible. We looked down onto the east side of the sandy point and saw piles of fishing nets and the small boat belonging to the two fishermen. We found ourselves on an absolutely flat, featureless rock plateau—not the slightest rise or ravine in sight. Here we encountered what surely were the shattered remains of the Hindu shrine to the goddess Khali Devi. One small, rather substantial-looking building was partly intact, and the foundations of at least four other structures were to the north of it. There were many pottery sherds of fairly recent date scattered in the vicinity. The Gazetteer (p. 277) describes the shrine as having been made of rough stones, about two yards square, containing a few rough stone images covered with red oxide of lead. But the shrine, and a stone-built reservoir, were desecrated by Arabs "who threw the intestines of turtles into them." Repeated attempts to rebuild the shrine have been foiled "by unseen hands."

As we had done at Jiwani and Gwadar, we split up so as to be able to explore the entire plateau. Cuyler went to the east along the north side of the plateau. Mughal went to the southeast side, and Barbara and I went to the western end. The island—at least the plateau as we saw it—was certainly not one by three miles in area as we had read. At most it was two and a half miles long and only about half a

mile wide. Very likely much of the sheer edges of the cliffs had fallen into the sea as the result of earthquakes and wave action since the time when the reports that we had read were compiled.

Southwest of the Hindu structures, we found the remains of a cemented stone tank, about five yards square and six feet deep. We learned later, from the tahsildar at Pasni, that it had been built by the government for the fishermen, but it did not appear to be used by them. (Or were these the remains of the reservoir associated with the Hindu shrine?)

The flies continued to force us all to move as quickly as possible. We had hoped to locate one of the places sacred to the Meds—said to have the footprints of Duldul, the horse of Ali—but the pursuit of myth had lost its luster in the clouds of flies. By 12:15 we met again at the base of the cliff where we had beached the raft. On the way down a rock had given way under me, hurling me face forward over the sharp, jagged rocks. Fortunately, only my right shin got scraped, but it could have been a serious accident.

Even the launch was teeming with flies. We beat at them with rags, cursed them, and even built a smudge fire which endangered the entire boat but still could not dissuade our unwelcome passengers. The three-and-a-half-hour trip back to Pasni was misery. The flies were so dense that we could easily kill fifty or so with one good swat. What a relief to reach shore where the red-eyed terrors flew off in search of other prey!

We were disappointed at not finding the slightest trace of anything older than the relatively modern Hindu shrine on the island. Since Nearchus was there just briefly, we were, of course, not expecting to find any material remains of his visit. But we did get a sense of what curse may have been placed on the island when he defied the gods by stepping foot on it—FLIES!

Later in the day, we tried to finalize plans for our move eastward to Ormara. Tentatively it was set that Cuyler, Barbara, and Noor, with all our supplies, would go by "public" launch to Ormara: Mughal and I would go overland in the Fisheries jeep. But, it didn't turn out that way.

Sunday, November 6

At 7:00, as scheduled, the Fisheries jeep arrived for our inspection of the Pasni area. Barbara stayed in Pasni to play doctor to the wife of the man who was currently head of the Fisheries Dept. There would have been no room for her in the jeep at any rate. Somehow, the driver, Mughal, Cuyler, I, and our guide, Mir Ahmad Khan Kalmati, squeezed into the jeep and headed off for a most profitable and interesting ten-hour survey.

First, we drove some three miles south of Pasni to a point about half a mile west of an area with salt pans like the ones we had seen at Jiwani. There was an old Muslim cemetery, but nothing of compelling interest. We continued south toward Jebel Zarain and after only a short distance, turned sharply west, winding our way through sand dunes and dry streambeds along the coastal strip.[25] We then cut north for a short distance to the old bed of what our guide called the Cheshani Kaur. But was it? Our 1/250,000 map had on it a Shinzani Creek much farther to the west. Were they the same?

Whatever its name, the dry riverbed ran roughly east-west and was several hundred yards wide. Along its northern edge was a broken line of oyster shells suggesting that this might have marked the ocean beach in the distant past.



Plate 58 Barbara and the flies on Astola Island off Pasni

We drove west for a couple of miles along the riverbed to the abandoned village of Cheshani Chahat. It was a good half mile from the sea, but we could clearly hear the surf. (From the site, it was 116 degrees magnetic to the center of Jebel Zarain which was estimated to be about three or four miles away.)

The village had been abandoned a hundred years ago and had been the residence of the grandfather of our Kalmati guide. There was a finely preserved sandstone well with a nine-and-a-half-foot internal diameter. The inside surface of the well was carefully tooled to provide a smooth surface. A niche with a stone projection beneath it had been carved on the inside of the well about six feet beneath its top on the north. Above the niche were three rosette designs in relief. Our guide did not know the purpose of those features in their unusual location inside the well. The well, at the time of our visit, was dry. Nearby were a couple of palm trees, and about forty yards to the north, on top of the oyster shell ridge, were the remains of a mudbrick house.

We then continued west along the riverbed for another couple of miles before we turned off the dirt track and drove over the sand dunes along the northern side of the bed. There we descended to the southern edge of a huge, flat, hard-surfaced plain in which we saw the remains of an abandoned, emergency airstrip. At the point where we descended from the dunes to the airstrip, there was a functioning well and "camping ground" called Guranij by our guide.

Driving across the airstrip, past two derelict buildings, almost to the base of the 413-foot-high mountain face, we came to the new coastal road being constructed by SEATO. I believe the project started under the auspices of the Baghdad Pact. The road was planned to stretch from Basra in southern Iraq to Karachi. Mir Ahmad Khan told us that this short stretch, just north and west of Pasni, had been cleared by bulldozers only a couple of months earlier. The roadbed was quite soft and required considerable work, but the road would be a boon—economically and politically—if it were ever completed.

Another three and a half miles eastward along the road (cement markers are placed every quarter mile), got us to the old dirt road that connects Pasni and Turbat in central Makran. Signs at that intersection were a bit over optimistic. One said that you could proceed east to Ormara, but in reality the road leading in that direction degenerated into nothing but a camel trail after only a hundred yards or so. We followed it anyway. After crossing several dry streambeds, we drove up a steep track to the top of an eroded limestone ridge. Just as the jeep topped the ridge and headed sharply down the other side, the driver let out a yell—"No brakes!" Mughal and I jumped off the back of the jeep, grabbed the tailgate, and tried unsuccessfully to retard the speed of the vehicle. The driver wisely veered off the winding trail and ran the vehicle into a sand dune. He just happened to have a can of brake fluid with him, and we were soon on our way again. We were beginning to realize, however, that travelling to Ormara by jeep would not only be treacherous, it would also take much too long.

We drove eastward for another half mile into the Shadi Kaur Valley. There the trail just disappeared. After winding through a mosaic of sand hills, we came to the service road connecting Pasni with a new water-pumping station. But the station marked the end of that road too, so we drove cross-country for two or three miles until we came to the place called Sotka Koh. Our guide had told us that a large archaeological site was there. And, indeed there was a major site, similar in overall appearance to Sutkagen Dor, with sharply rising, natural rock ridges forming a large enclosure covered with distinctive Harappan sherds (figure 18; plate 59). At last we had made a significant discovery relating to the Harappans.[26]

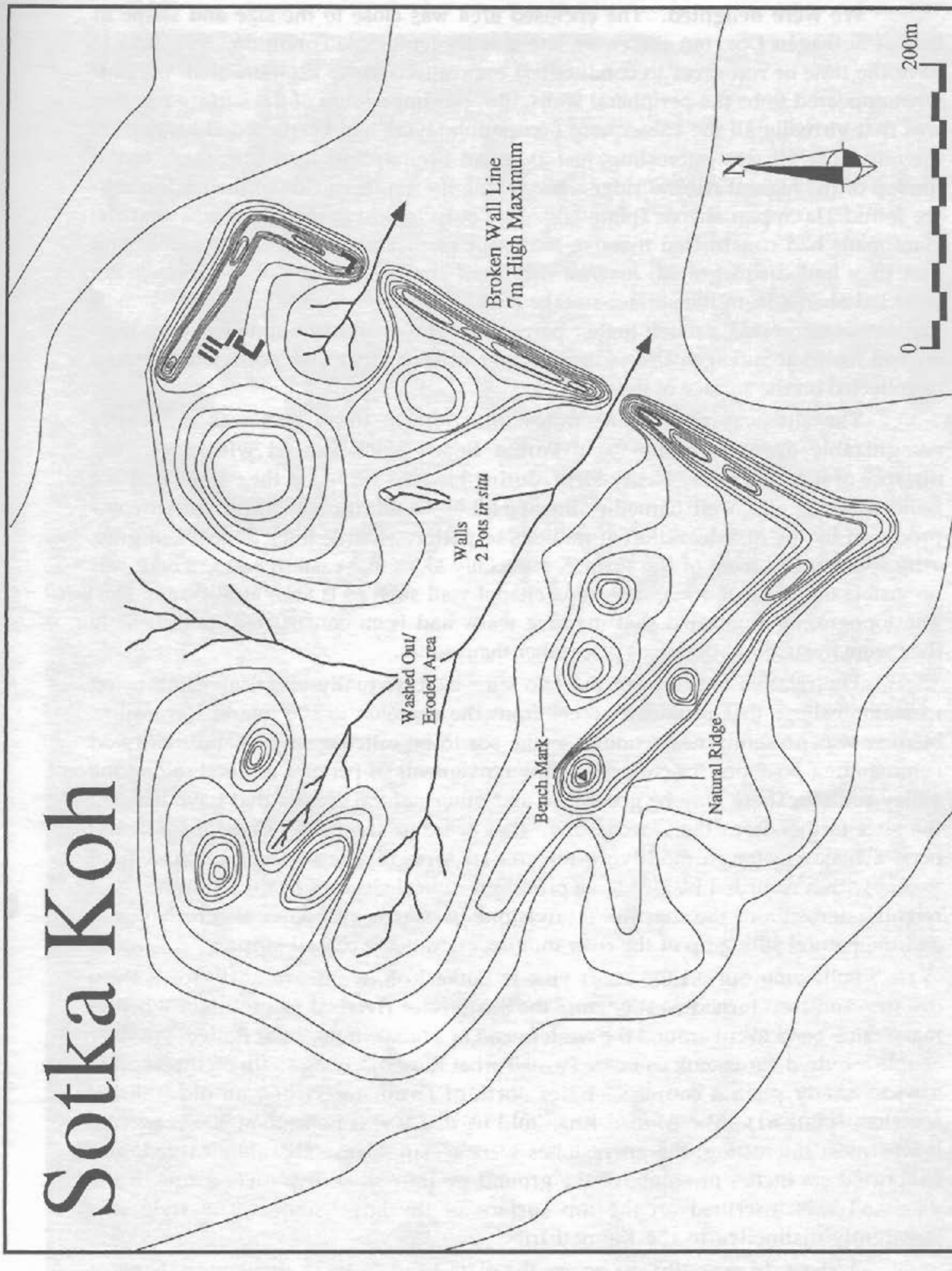


Figure 18
Plan of
Sotka Koh

We were delighted. The enclosed area was close to the size and shape of that of Sutkagen Dor, but the entire site was in deplorable condition. We did not have the time or resources to conduct test excavations, or to do more than pace-off what appeared to be the peripheral walls. But our impression of the surface remains was that virtually all the subsequent occupation layers had been eroded away over the millennia. It was interesting, just as it had been at Sutkagen Dor, that even at the top of the highest natural ridge—here along the southern side of the enclosure—we found Harappan sherds (plate 60). The only logical explanation was that the Harappans had constructed massive mudbrick or pise platforms on the ridges and that they had disintegrated, leaving the sherds on the surface of the rocks. We collected sherds from the surface to take back to Karachi. Our initial impression of the sherds suggested a much higher percentage of elaborately painted pottery than we had found at Sutkagen Dor. Curiously, no artifacts other than pottery were noted or collected on the surface of the site.

The site was about nine miles inland from Pasni and was not easily recognizable even from the Pasni-Turbat Road which passed within viewing distance of it on the west. Henry Field, during his 1955 survey in the region, had not noticed it. It was well named—"Burnt Hill." In addition to the reddish color produced by the disintegration of millions of pottery sherds, thick deposits of grey, ashy soil covered most of the surface, especially along the eastern edge. There was no visible evidence of a massive stone citadel wall such as is seen at Sutkagen Dor. The topography suggested that massive walls had been constructed, but possibly they were made of mudbrick or pise rather than stones.

The relative locations of the two sites were virtually identical—both being in major valleys that provided access from the seacoast to the inland Kej Valley. Neither was presently near enough to the sea to be called a seaport, but both had commanding positions for controlling any movements of peoples or goods along the valley routes. There may be geological and other natural factors that have isolated the sites farther from the seacoast than they were in antiquity. Coastal uplift has been a major factor in modifying the coastal topography; earthquakes and tidal waves within recorded history have produced radical changes in the coastline. The relentless erosion of the coastline's sandstone by waves and wind also reshapes it; and the natural silting up of the river mouths extends the coastal strips.[27]

Following our all too short visit to Sotka Koh, we drove north for a short distance and then turned west to cross the Shadi Kaur riverbed just south of where it makes an S-bend to cut around the western end of a break in the Talor Range. Another couple hundred yards took us to the Pasni-Turbat Road. Driving south on that road to a wide, sandy plain a couple of miles north of Pasni, we visited an old Kalmati cemetery (plate 61). Mir Ahmad Khan told us that it was more than 200 years old. It was most interesting; the gravestones were rectangular, elaborately carved, and supported six inches or so above the ground on four stone legs. The name of the deceased was inscribed on the top surface of the large stone. The style was apparently distinctive to the Kalmati tribe.

A short drive southwest across the plain brought us to the western bank of the mouth of the Shadi Kaur. There, on a rather high embankment, we saw a few stone building foundations and a scatter of relatively modern pottery sherds. The site was small in area, but local lore had it that this was the site of the town visited by the Arab geographer and traveller Ibn Batutu in the fourteenth century. It was now called Siah Koh ("Black Hill"), another common name given to archaeological

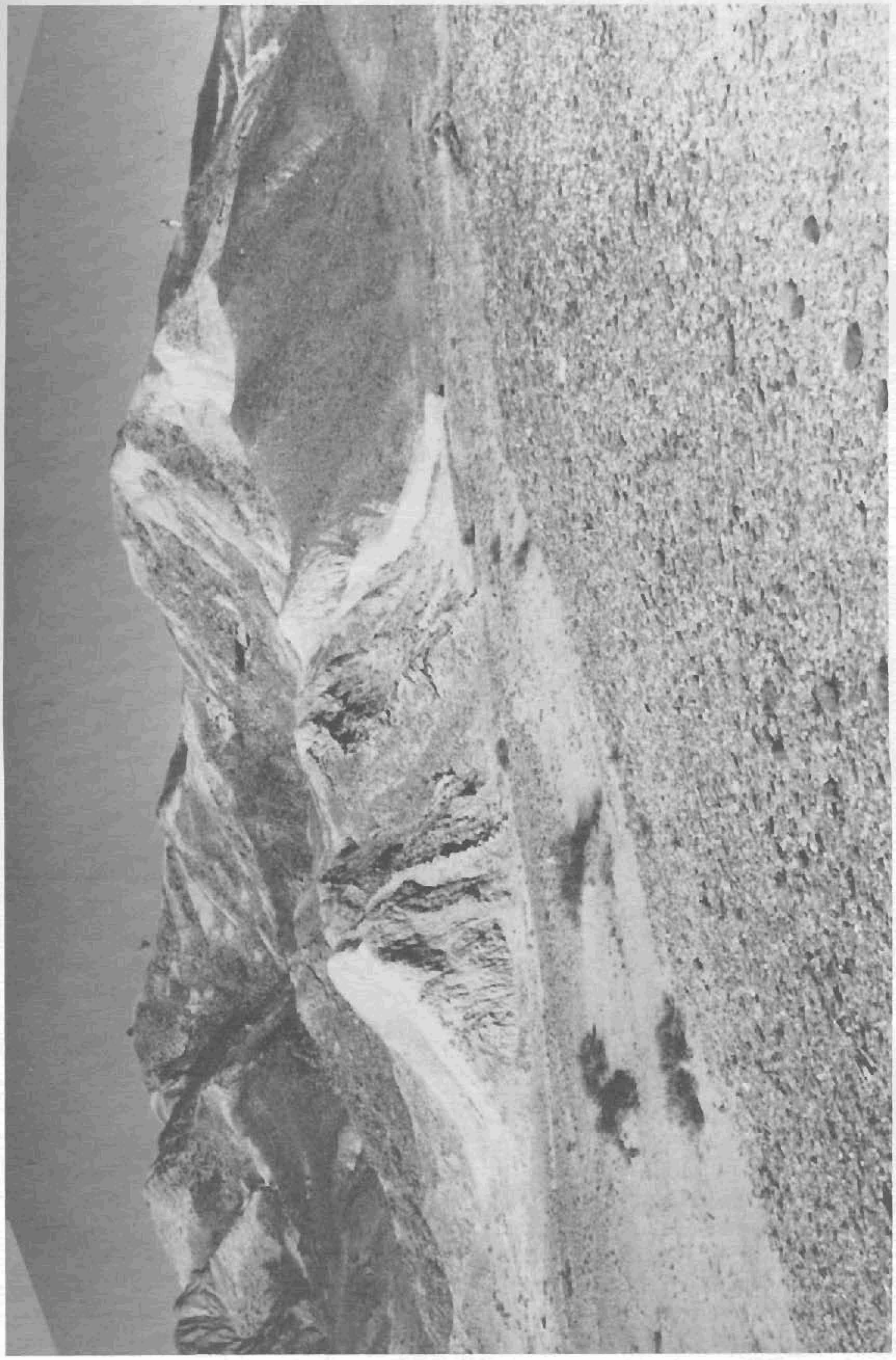


Plate 59 Sotka Koh: Harappan site north of Pasni

sites in Baluchistan whose surfaces are darker than the surrounding ground because of the pottery sherds covering them.

By then it was 5:00 and past the scheduled time for the departure of our boat for Ormara. We hastened back to Pasni. Although we were tired from the ten hours of jeep travel, we immediately prepared to board the boat. We ate a hasty dinner and boarded at 6:00, after paying the captain the modest sum of 250 rupees for our passages. There was no cabin, so we situated ourselves as comfortably as possible in a small, square area on the open deck. The boat was going to Ormara on some unstated business. A dozen fishermen were also aboard. During the return trip to Pasni, those men said they were going to engage in some commercial fishing.

It was dark by the time the boat cleared the entrance of Pasni Bay. We slept intermittently during the moonlit, night-long voyage.

Monday, November 7

The boat approached the western end of Ormara Head at sunrise (figure 19). It is identical in composition to Gwadar Head (Pleistocene conglomerates and shelly limestones and mudstones and sandstones from the Miocene and Pleistocene). Both are about eight miles in east-west length, but Ormara Head is much more massive and higher (up to 1,554 feet). The tombolo connecting the rocky head with the mainland is also larger than that at Gwadar with a minimum width of one and a half miles.

It took an hour to reach the eastern end of the head (eight miles) where we made a wide sweep to the north as we entered East Bay. An impressively wide, shallow, sandy area lies along the northern edge of the head making it necessary for boats to skirt far out to the north. They then double back in to anchor before Ormara town which is situated on the sandy tombolo.

We had difficulty arranging for a decent-sized boat and enough men to get our supplies ashore. The surf was fairly heavy at the time. Finally, the Customs people dispatched a boat to assist us. At first glance, Ormara looked like a small village, but it turned out to be a sizeable town with various activities related to commercial fishing. It has never attained the importance of Gwadar because it has no easy access to the inland, being isolated by vast areas of sand dunes and swamps.

It took about an hour and a half after we reached shore to make the initial introductions and get settled into the government Rest House which was a comfortable building with two bedrooms, a large dining-living room, a "kitchen" (a small, square chamber with a few loose stones on the floor), a room for Noor, a storage room, a washroom, and a toilet room. There was also an L-shaped veranda. The house was situated at the southern end of town between the schoolhouse and the dispensary, on high ground that attracted a steady sea breeze.

The rest of the morning we spent meeting government officials and arranging for some basic furniture to be moved into the Rest House. The tahsildar was in Karachi (news we had gotten used to hearing), but his secretary was most cooperative and made us feel welcome. After a short rest in the early afternoon, we returned to the tahsildar's office where the secretary had invited some of the town's elders to meet us. There were five elders, each plainly dressed and outwardly indistinguishable from all the other men we had seen in the streets. They were clearly uninterested in us and in our archaeological explorations, and after less than an hour, we departed, no better informed than when we had started.

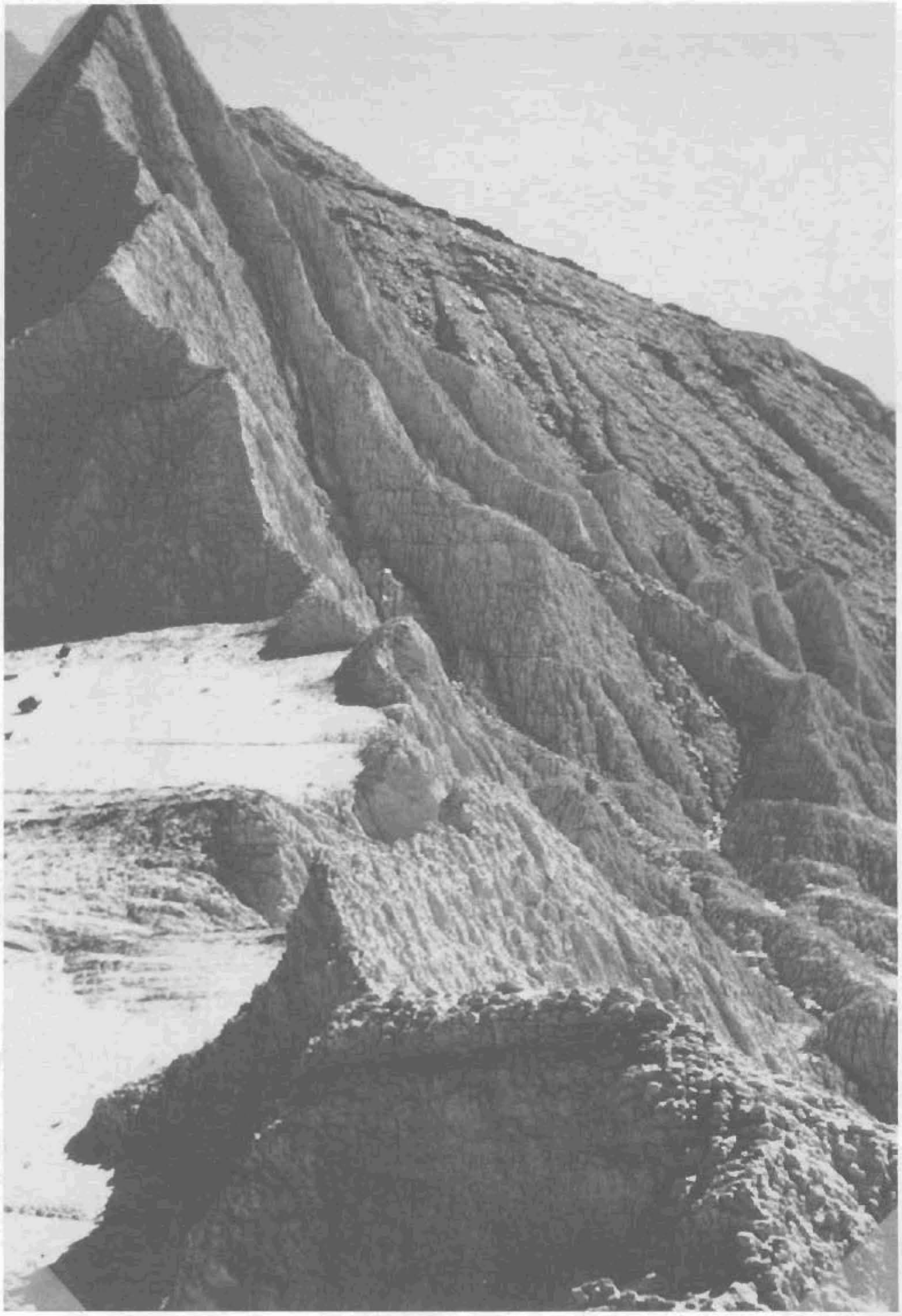


Plate 60 Sotka Koh: Natural ridge along southern edge of site; covered with Harappan sherds

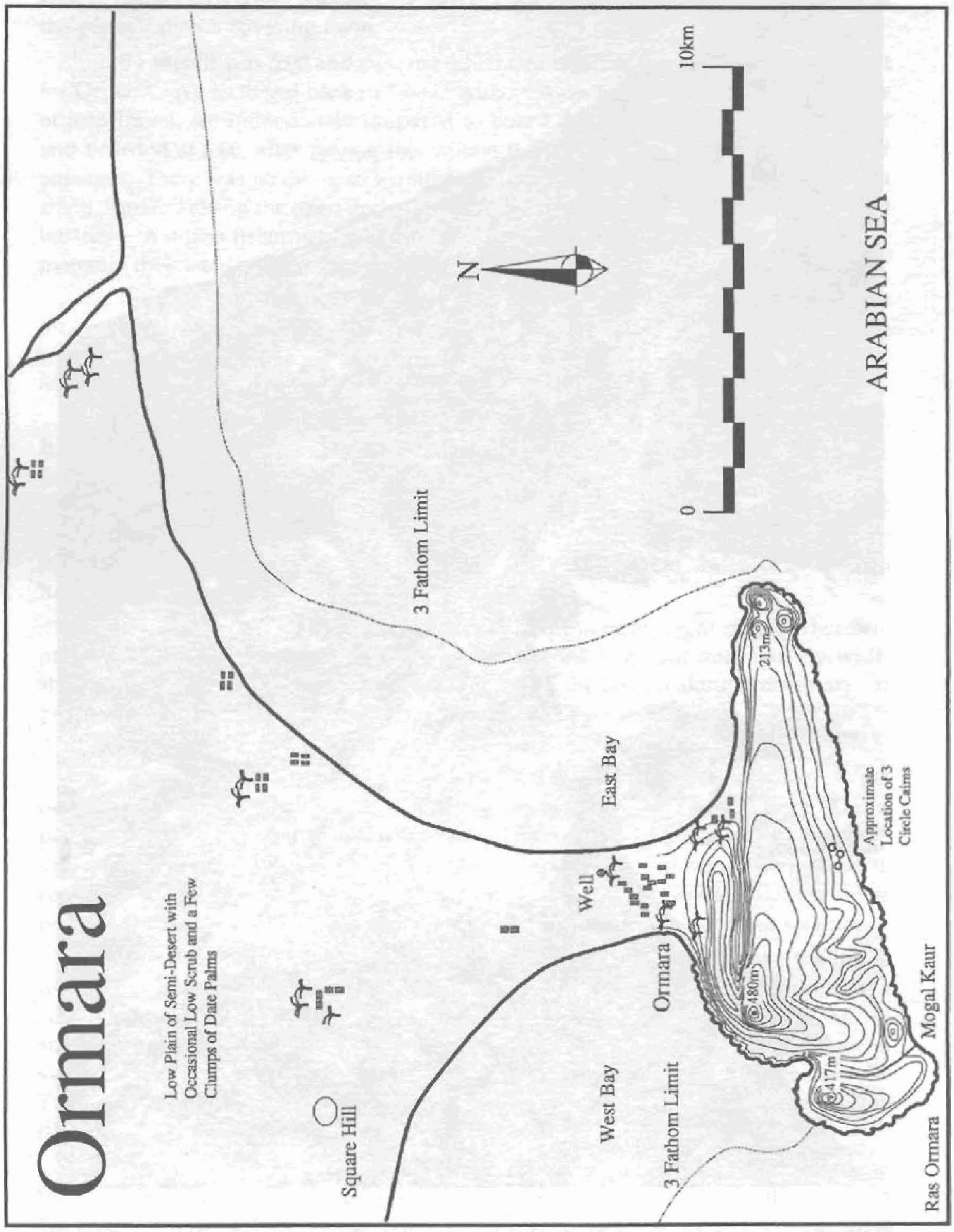


Figure 19 Map of Ormara

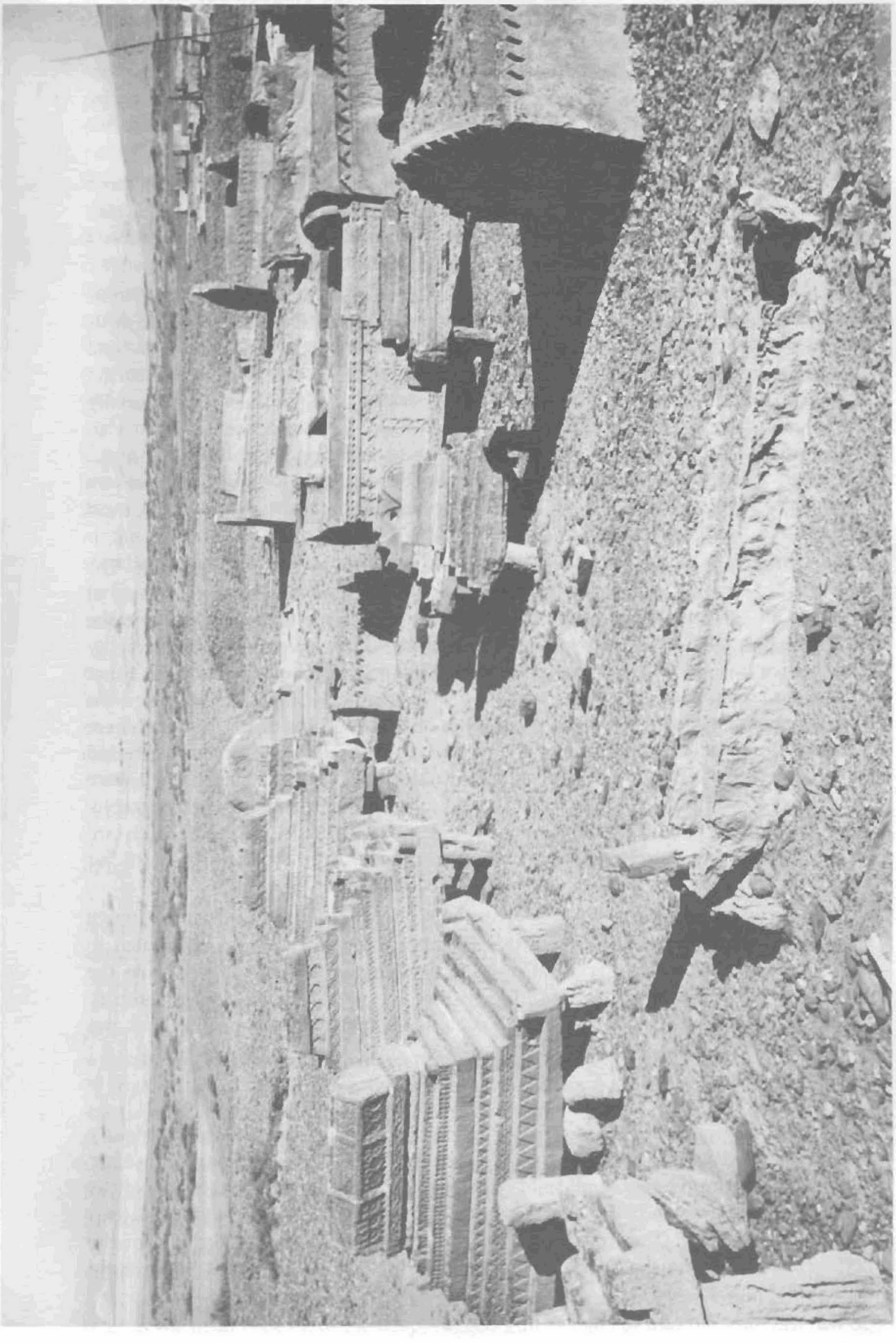


Plate 61 Pasni: Kalmati cemetery north of the village

Later in the afternoon, another older man came to the Rest House to talk with us. A tall, alert man born in Ormara, he was a retired police officer who had spent his life in this part of Makran. He gave us firsthand information about Ras Malan, the last scheduled destination for our survey. He had personally been there and had seen ancient remains on Batt Plateau. He said that we could easily go by boat from Ormara to Batt Kaur, along the southern edge of Ras Malan, where we could land and climb up the valley to see the ruins.

Encouraged by this information, we sent a message to the tahsildar's secretary stating that we wanted to hire a motorized boat for three days. Ras Malan was only twenty-three miles from Ormara, but if we had to take a sailboat we could very well waste the three days available to us floundering in a windless sea.

For a good part of the afternoon, we had another diversion. A group of some twenty little girls came to the Rest House out of curiosity, to stare and giggle at us strange people. They were dressed in colorful garments—reds, greens, and blues—and all were wearing silver bracelets (bangles) and anklets. Many were also wearing nose and ear rings. The girls, with their beautiful smiles, were exceptionally attractive and were anything but shy. Also, a group of women came over to visit with Barbara. They freely offered to sell her the silver bangles right off their arms. The solid silver bracelets were elegantly smoothed from long wear. Barbara purchased about a dozen of them (thirty years later they are still among her most favorite and beautiful jewelry).

After supper, we had an unexpected visit by a young man and his cousin. The young man, Omar, was visiting his home in Ormara during a break in classes at Karachi University. He was studying economics to prepare himself to carry on the fishing business started in Ormara by his grandfather. Like so many male university students we met in Pakistan, he expressed his hope to do advanced studies in either the U.S. or Japan. He had grandiose plans for Ormara, including a big hotel and the development of a sort of Hawaiian paradise as he told us. It would be a place where people from Karachi could drive for the weekend. That part of his dream depended on the completion of the planned road from Karachi to Ormara. But, even if it were completed, it would have to be a jeep trip and a difficult one at that. The geography between Karachi and Ormara ranks as the most difficult in all of Pakistan. Nonetheless, it was refreshing to listen to his enthusiastic and optimistic plans for the future of that remote and underdeveloped coastal community.

He told us that he planned to return to Karachi aboard the next motor launch which was due to arrive in Ormara the day after tomorrow. It was scheduled to return to Karachi on Saturday, but he said it might be possible to persuade the captain to delay his trip until Monday so that we would be able to go with it. Otherwise, we would probably have to cable for a special boat from Karachi and that would cost a pretty penny.

Tuesday, November 8

We were up by 6:30 to begin our trek to the top of Ormara Head. Little did we realize what was in store for us. We took our local houseboy along as guide. Without him, we probably would not even have been able to locate the start of the path. The northern, landward side of the head was considerably higher and steeper than the ocean side. The tremendous amount of collapsed rock at the foot of the northern side may have resulted partly from the 1945 earthquake that so severely rocked Makran.

The rudimentary path started near the place where the eastern edge of the sandpit connecting the head and the mainland swings into the base of the head. We wound our way, with quick certainty, up a relatively gentle slope with loose rocks for fifty yards or so. Then we came to the steep, jagged collapsed rock into which the path led up to the face of the head. The farther we went, the steeper and more difficult it became. About two-thirds of the way along the path, we were confronted with a rickety, wooden ladder that had to be ascended for some dozen steps to get to the next climbable level.

A bit farther on, we reached a spot where we had to crawl up between tumbled rocks for some fifteen feet and then worm our way up and around a very narrow tip of rock to a small ledge. There, the lower end of a chain was anchored. Our guide told us that this path, and the chain, were used by people who collected grass from the top of the head to feed their animals. The chain, he said, was used to lower bundles of grass over the edge, but we could not imagine how anyone could carry any sort of a bundle and still negotiate shimmying through and around the collapsed rocks.

From that point the ascent took on the aspect of mountain climbing, an experience for which none of us was trained. There was no path anymore. Finally, we reached a ledge some twenty feet below the lip-edge of the top of the head. We faced a sheer vertical face of rock and a rusty chain that was suspended from the top of the head (plate 62). Taking turns, we climbed up the chain and finally were standing together on the top of the 1,500-foot-high promontory.

The view was surprising (plate 63). The top of the head was a perfectly flat, barren rock table slanting down at an angle from 3 to 5 degrees from the 1,550-foot-high point in the northwest to a low point of 600 to 700 feet at the southeast end. A flat, narrow coastal plateau runs along the southern edge of the head at a level lower than the edge of the main sloping plateau. That narrow, lower ledge widened out as it approached the eastern end of the head until it virtually formed the entire eastern top of the head.

We walked about three-quarters of the way to the eastern end, but there was absolutely nothing of human origin to be seen. The flat slope of the surface allowed us a clear view of the entire eastern end. Through our binoculars we were not able to locate any structures.

About a hundred meters east of where the chain was located, near the northern edge of the promontory, we found two curious rectangular structures made of stone. They were both about three meters square. Number 1 was in very poor condition but originally may have been similar in construction to Number 2. The latter had walls of rough stones, with no mortar, standing about one meter high. An entryway was built into the eastern wall. In the lower parts of the southern and western walls were rather carefully built, rectangular openings (ca. 40 cms. high and 20 cms. wide). Their function was unknown to us, but their size would have allowed the passage of goats or some other small animals. The structures appeared to be relatively modern. We were told later, by a local man in town, that they were more than 200 years old, belonging to the time of the local Jan (?) Dynasty and were fortifications against the periodic raids by the Arabs. But it was not at all clear how they might have functioned, or even if his story was true.

We regrouped back at the chain for a date-break before heading toward the western end of the head. After walking about a mile up the sloping surface to the 1,550-foot-high point, we found it necessary to stay closer and closer to the northern edge of the head because of the deep, rugged gullies that cut into the southern half of

the slope. We could still see clearly most of the lower, flat coastal plateau to the south and saw no advantage in actually climbing down to it. Mughal, using the binoculars, located three circular stone cairns on that plateau.

We continued until we came to a very deep ravine that cut clear through to the northern edge of the head. It was by then 11 o'clock and we still had at least an hour and a half of tough walking and climbing to reach the valley of the Moghul Kaur. There, we had heard, were some "pillars," a well, and what sounded like gabarbands. We discussed the situation and agreed that we could not realistically complete the walk that day. Perhaps upon our return to Ormara from Ras Malan, we might be able to take a boat around to the mouth of the Moghul Kaur and explore the valley more effectively. Stein had visited the valley in 1943 and had reported finding nothing of great antiquity. Nonetheless, we were still curious.

Several people in Ormara had told us about wild animals that lived up on the head—especially deer. Others told us that there were only some wild goats and birds and that was all. We saw nothing at all moving.

The view from the top of the head was interesting. We could see clearly the concentric arcs of the old beaches that progressively created the tombolo connecting the head to the mainland. The town of Ormara occupied the southern half of the isthmus, whereas the northern half was dominated by sand dunes. In the distance we could see the large, flat, barren sandy beach of the mainland. To the left (west) of where the isthmus joined the mainland, we could see Peri Kalat where Stein reported visiting a Zikri cemetery (confirmed to us by local informants). Far to the east, we could see our next destination, Ras Malan.

The descent and return to the Rest House took only an hour and a half—much quicker than the ascent, but it was physically more punishing on our legs and feet. Later in the afternoon, still tired from our climb, we met with some more local men and asked them for information about the geography and history of the region. The most interesting and helpful was the *sirdar* of the Ormara *khaudas* (i.e. headman over all the heads of the various local tribes; an intermediary between the government and the local factions). He provided information about Ormara and its history, and also promised to help us with our transportation problems.

In the evening, Omar, the young man we had met a few days earlier who was training for a career in the fishing industry, came for a visit. With him were his cousin, Sherali Dhandani, and a man from the Customs House. They chose to discuss American politics, but we finally steered them into a discussion about our own problem of getting back to Karachi.

Communication of any kind between Ormara and Karachi was primitive. For example, mail from Karachi goes by truck some 115 miles to Las Bela where it is transferred to camel for the rest of the trip. The route goes back down to the coast along the western side of Sonmiani Bay to Hingal, about 90 miles, and then westward along the northern edge of the stony hell called Ras Malan for another 70 miles or so to Ormara. This takes a minimum of two to three weeks in each direction. It would have been fascinating to follow that route back to Karachi if we had had the time and resources. The possibilities for finding ancient sites were good, but that would have to wait for some future expedition.

Wednesday, November 9

We spent most of the morning gathering and trying to confirm information about our return trip to Karachi. The rumor for the past two days had been that the motorized "country craft" (such as we first took from Karachi to Gwadar) was on its

way from Karachi. We were able to confirm the rumour through the telegraph man, although the agent for the boat and the Customs people had not yet received official notification. Later in the day the official cable was received, and we reconfirmed our reservations. The boat was to arrive the next day and would return to Karachi probably on Monday or Tuesday. Omar said that he knew this particular boat—the fastest of the country craft—and that it should make the trip to Karachi in sixteen or seventeen hours. So, we sent a cable to the Department of Archaeology giving our departure date for Karachi.

We also learned that the deputy inspector of foods for Kalat District was arriving the next day and that he and his party would require room in the Rest House. They had reservations on the same boat to Karachi.

Our "work" for the day consisted of examining the stone wall foundations of some sort of structure said to belong to an older settlement. It was situated among the houses near the northern edge of the present town. There was no way of identifying what the structure might have been, but there was also no reason to assume any great antiquity for it. Later, we worked on the sketch map of Sotka Koh and got a good start on drawing the pottery sherds that we had collected there.

During the morning Barbara had visited the girl's primary school for entertainment. She described the experience as follows:

> I was invited to attend a class in the local school: a class for girls only. The teacher was proud that they were able to offer an education to girls as well as boys in this remote community. The room was full of girls of all sizes and ages who were as excited about my being there as I was to be there. I did not see rows of seats or stacks of books or blackboards such as we have; only the bright, brown eyes of girls in white *chadars* (large scarfs that cover the head and shoulders), plain white shirts, and *shalwars* (long, baggy pants) of light blue, all seated on floor mats in front of their teacher.
>
> It was a remarkable show of attempting to follow a school uniform code even by those very poor families. There was an obvious awareness of the importance of education for their children, but the sad note was that this would probably be the only education the girls would receive. They would be taken as far as the sixth grade by which time they would be able at least to write their names and to do the basic arithmetic required to run the daily business of a family. The time to take on family responsibilities came at a very early age—probably fourteen to sixteen years of age. The few older girls in the class were probably there only because the opportunity to marry had not come to them as yet.
>
> By way of thanking the class for having me as their guest, I made a doll from a sock and dressed it in western style clothes so that the girls could see what our children wore to school. A short note of thanks was sent in return along with the request that I make enough dolls for all the girls in the class. Alas, I had no more extra socks, and the local bazaar carried no such items."

In the evening we all visited the home of Omar's cousin Sherali for a dish of jello and some sweets. The young man was an Ismaili and lived in the tallest building in town—three stories. His room was plastered with pictures of both Agha Khans. Barbara had been invited there earlier in the day to prepare a special surprise for us. After the jello and Pakistani sweets, Barbara and Sherali presented us with dishes of ice cream made from powdered junket and fresh milk and frozen in his refrigerator. What a ludicrous, but welcome dish to have in Makran. Also, we heard on his short-wave radio that we had a new president in the States—John F. Kennedy.

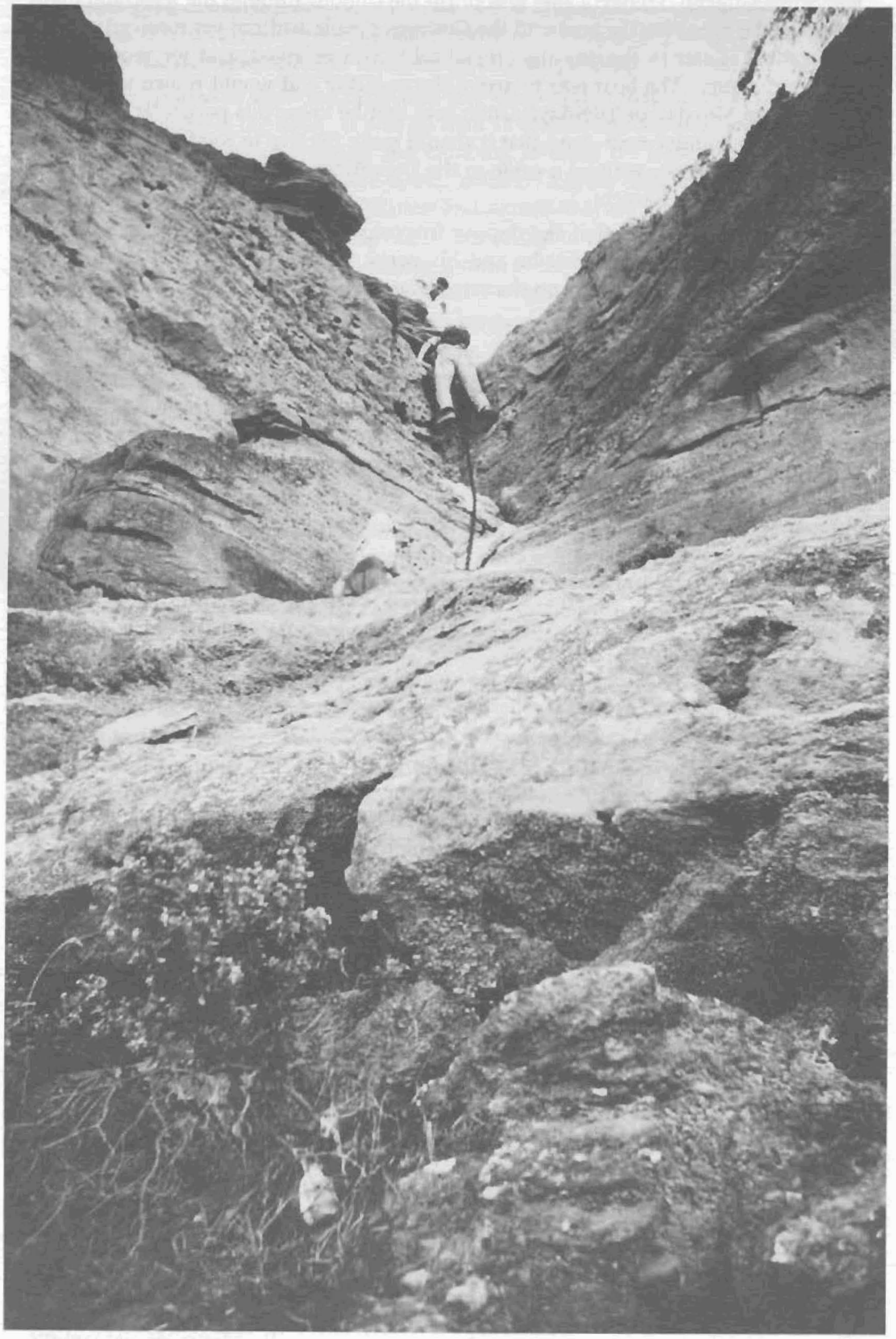


Plate 62 Ormara Head: Climbing chain to the top



Plate 63 Ormara: View northwards from top of the Head to Ormara village and the mainland

Thursday, November 10

About 8:00 in the morning, we shoved off for our sail to Ras Malan. Our boat was a twenty-five-foot, lateen-rigged fishing craft, very similar to the one we had taken from Jiwani to Gwadar, but much narrower and much more crowded. In addition to our team (less Noor), there was the crew consisting of the captain, two men, and a small boy, plus an elderly gentleman who lived at Ras Malan and who was to be our guide. We were very excited about this trip because the old man said that he knew just where the old ruins that we had described to him were. The Baluchistan Gazetteer described a place with stone foundations and a cemetery with headstones carved with animals, human hands, etc.

Normally, they told us, the forty-mile trip should take about eight hours. Unfortunately, there was not a trace of a breeze. The crew rowed for the first four hours which got us out past the eastern end of Ormara Head where the crew hoped to pick up a breeze. Well, we did—a light one—but it was directly out of the east. Lateen-rigged boats are not famous for their tacking performance. The laborious task went on until 4:30. By checking the coastline with our maps, we figured that we were still twenty-four miles from Ras Malan.

The coastline from Ormara to Ras Malan runs almost straight east-west for the entire forty miles. The first thirteen-mile stretch is a wide, nearly flat, sandy plain called the Gwaz region. Some four miles inland is a group of mud volcanoes looking like huge cones of whitish mud (Snead 1969: figure 1). The next twenty-six miles to Ras Malan has been described as "one of the most rugged sections of the entire Makran coast" (Snead 1969:26).

At 4:30, when the wind failed completely, the sail was hauled, and the three crew members resorted to the oars again. As we finally approached the western end of Ras Malan, we were confronted with a most formidable and forbidding sight: a huge, uplifted block of Pliocene and Pleistocene sandstones, mudstones, and shelly limestones, with sheer cliffs rising up to 2,000 feet above the water. The starkness of the scene was soon ameliorated as the sun set—one of the most beautiful of the entire trip—with the naked rocks flashing white and pink in the reddish glow of the setting sun, accompanied by a striking cloud pattern overhead.

But we were still two miles from the planned landing spot. From what we could see of the coastline, and the sound of the pounding surf, we concluded that it would be foolhardy to attempt a landing after dark. So, the anchor was thrown out, the kerosene lanterns were lit, and we rearranged ourselves in the cramped quarters. The crew and the elderly gentleman took the forward half of the boat; Cuyler and Mughal settled on top of the bedding rolls in the open "hold" amidships; and after dinner, Barbara and I squeezed into the small, triangular deck space where the helmsman usually sat.

The crew had not brought enough food with them. They started the trip with only a small bundle of rice and two fish, all of which they had consumed at midday. We offered them a pound of rice but they refused it with no explanation. We set up our charcoal stove on the helmsman's deck and proceeded to prepare water for a cup of pre-dinner bouillon. Just as the water was coming to a boil, the stove tipped over for some unknown reason spilling hot water and charcoal onto the wooden deck. Cuyler quickly doused the charcoal with sea water and we tried again. We got our bouillon and then boiled a pound of rice and added pieces of chicken that Noor had prepared for us in Ormara. The meal was topped off with our usual couple of cups of tea laced with Ovaltine. At 10:00 we settled down to what we hoped would be a reasonable rest.

Friday, November 11

At 2 A.M. the crew started stomping over and around us, slapping us accidentally in the faces with ropes, and generally being hard to get along with. But, we learned, they were doing the smart thing. They wanted to get the boat into position for landing as soon as the sun came up. There was still no steady breeze so the rest of the night was spent in repeatedly putting up and taking down the sail, and rowing.

When dawn broke, we found ourselves 200 yards or so from the beach at a point considerably east of the mouth of the Batt Kaur. The captain explained that Batt Kaur had no suitable landing beach and we would have to go farther to the wide beach connected with the Sorab Kaur. Two small fishing boats were visible on the beach, and all of a sudden some men appeared from the hills to the west. The surf was tremendous from our perspective—huge rollers crashing onto the beach.

The captain then informed us that he and his crew had never landed there before. Fortunately, our elderly guide knew the beach and pointed out to the captain a single point along the lengthy beach where the surf was usually the weakest. We stored our gear beneath the deck panels as well as we could and prepared for the landing. At a point just beyond where the waves crested, the crew quickly turned the boat around so that the bow headed into the oncoming surf. Otherwise there would have been danger of being swamped by a wave breaking over the stern. A couple of large waves picked up the boat and hurled us toward the beach. The crew strained, successfully, to keep the boat from turning sideways to the waves. More waves broke around the boat, but, miraculously, we stayed dry and in a moment were aground. We immediately jumped out and helped the crew manhandle the boat about ten yards up onto the beach above the high water mark.

We found ourselves on a fairly flat, sandy area at the base of a tremendous sandy-clay cliff. It was obvious that we had a difficult day ahead of us. Barbara elected to remain on the beach with the boat and our supplies. She had a couple of peculiar experiences in our absence. First, a fellow came walking along the beach from the direction of Ormara. He stopped to talk with the fishermen who sent him over to Barbara to get an aspirin for his headache. He said that he was on his way—walking—to Karachi. The next incident involved our precious water supply. We had brought two five-gallon cans of boiled drinking water from Ormara and had left them on the beach with Barbara and the rest of our supplies. Late in the afternoon, unseen by Barbara, our crewmen emptied both water cans onto the sand. Barbara was furious when she learned of this. With her knowledge of basic Urdu plus a great deal of gesticulating, she understood them to explain that they had emptied the tins because they had gotten too hot sitting in the sun all day. They then carried the cans up the Sorab Kaur Valley, a mile or so, and filled them with water from a well dug into the riverbed.

Cuyler, Rafique, and I, with our elderly guide, headed out at 8:00. At the mouth of the Sorab Kaur we visited a small settlement of three mat huts inhabited by a few women and children. Continuing westward, we ascended a steep, stony ridge and gazed westward down into the large Batt Kaur Valley. Then for hours we climbed up and down steep-sided gullies and followed dry river courses.

We came upon a cemetery in which many of the graves were clearly of recent Muslim date (figure 20; plates 64, 65, and 66). But there were also seven intact stone tombs called "Rumi" tombs by the locals. They consisted of a rectangular stone platform of two or three superimposed stages, each stage diminishing in size, on top of which was a sarcophagus-like structure of vertical stone slabs (figure 21). The

corners of the slabs had been secured to one another by metal clamps originally. Only the butterfly notches remained. The metal that had been poured in for the clamps had been robbed out. The sarcophagi originally had stone slab lids, also of two or three stages. Apparently on top of the lids had stood a rectangular stone, its opposite sides carved with simple geometric designs. The sides and ends of the sarcophagi were decorated with large rosette-like, incised carvings of several simple geometric patterns (figure 22).

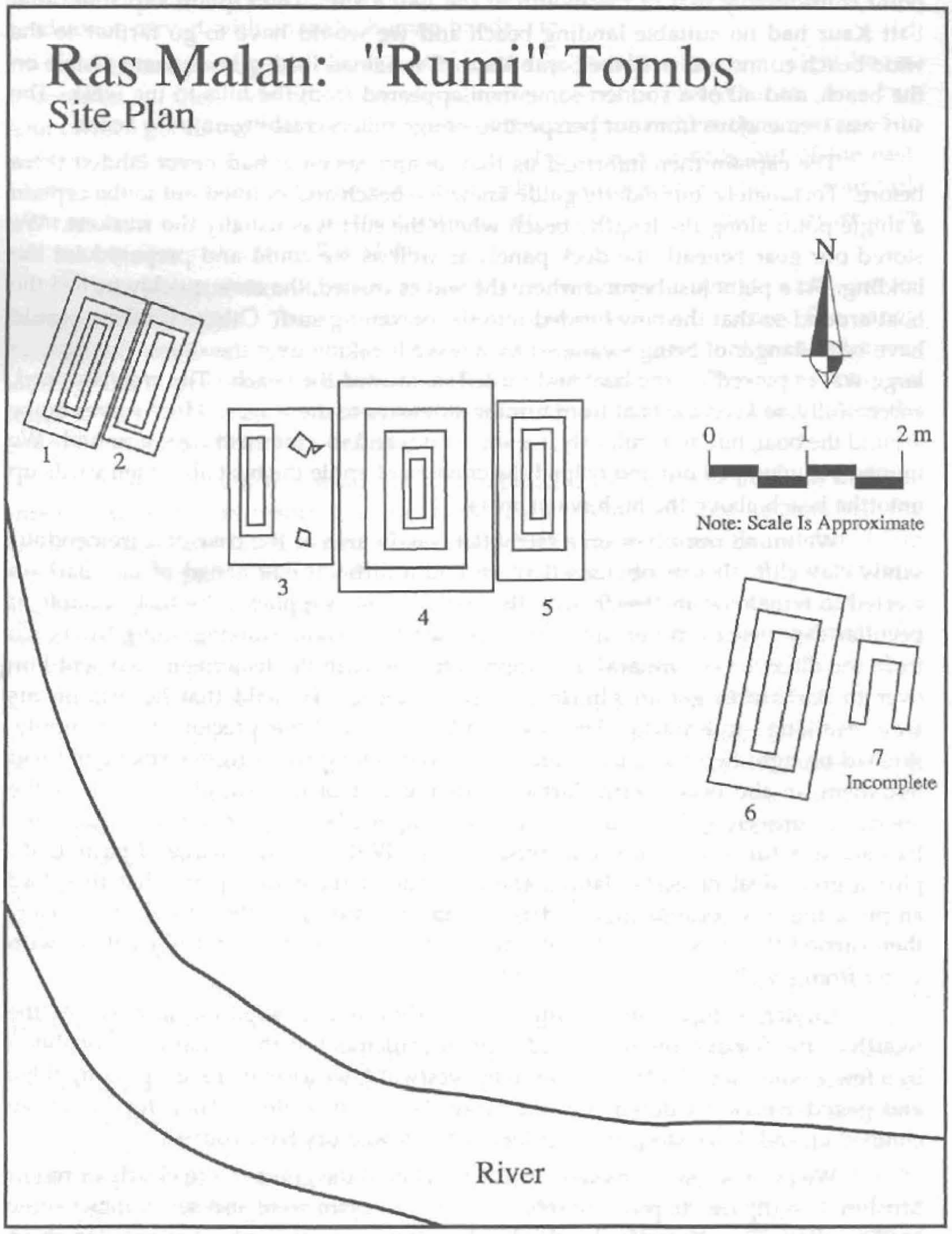


Figure 20 Plan: "Rumi" tombs on Ras Malan

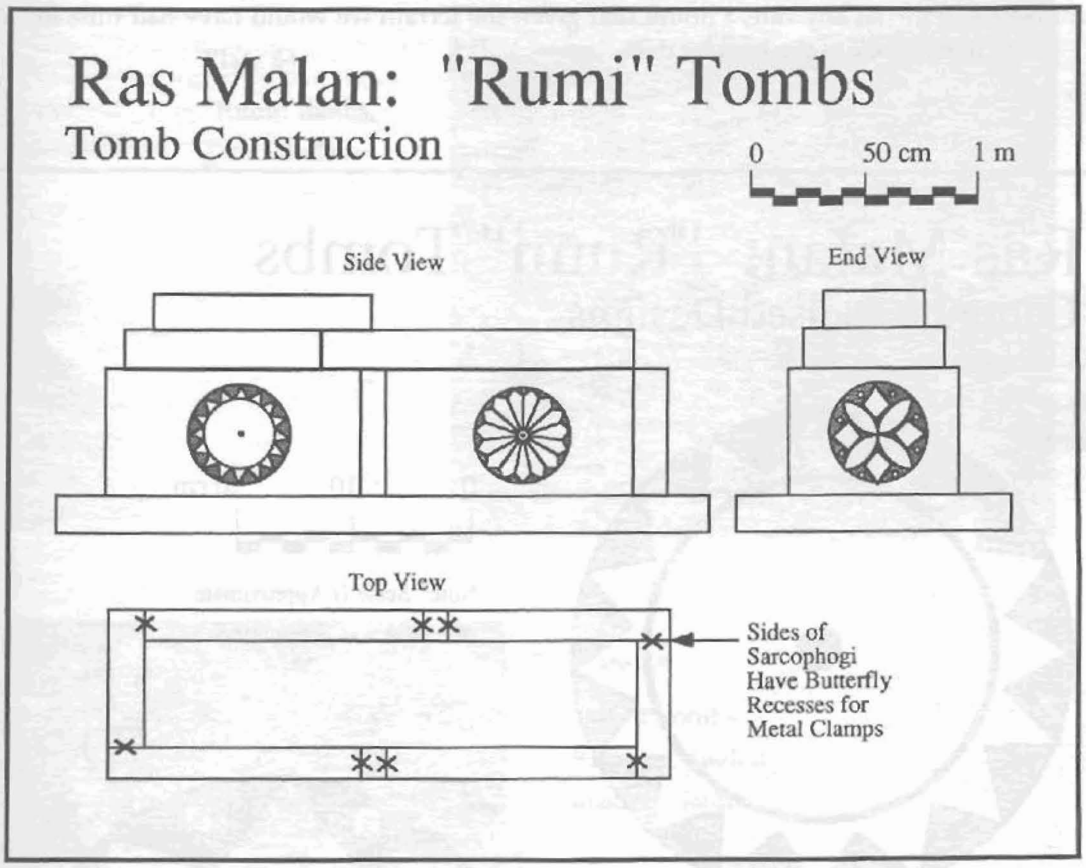


Figure 21 **Construction details of a "Rumi" tomb**

Mughal told us that the body was actually buried in the ground and the sarcophagus-looking structures were merely filled with dirt. It certainly seemed so to us as we inspected the now dismantled structures. The dirt fillings had apparently washed out, and the chambers were empty. Mughal, familiar with this general type of tomb found throughout Sind, said that he had never seen any quite like these. We made a sketch plan of the cemetery, took measurements of the best preserved monuments, and photographed the area.

We then continued walking north along the easternmost of the two branches of the riverbed that formed the central clump of ground upon which the tombs were built. After travelling a considerable distance up a steep-walled valley, we began the actual ascent to the top of the Batt Plateau at its northern end. It was a difficult route, winding steeply upward for more than 1,000 feet. After about an hour of this we dropped, exhausted, on the top of the Batt.

From there we looked straight down to the north into a fantastic gorge that must have been 1,500 feet deep. Straight across the Batt, to the north, west and east, we were confronted with a panorama of a maze of immensely deep, twisting valleys that cut the tilting tablelands into a gigantic jigsaw puzzle with missing pieces. Repeatedly, we had asked the old gentleman where the ancient ruins were that he had spoken of back in Ormara. He would only spread his arms and tell us that "here is the top of Batt Plateau—just what you asked to see."

We were furious. The old fellow did not seem to have the slightest idea of where the promised site was—or was he just so old and tired that he didn't want to

take us to it? At any rate, I doubt that given the terrain we would have had time to get to it and back to the boat by dark.

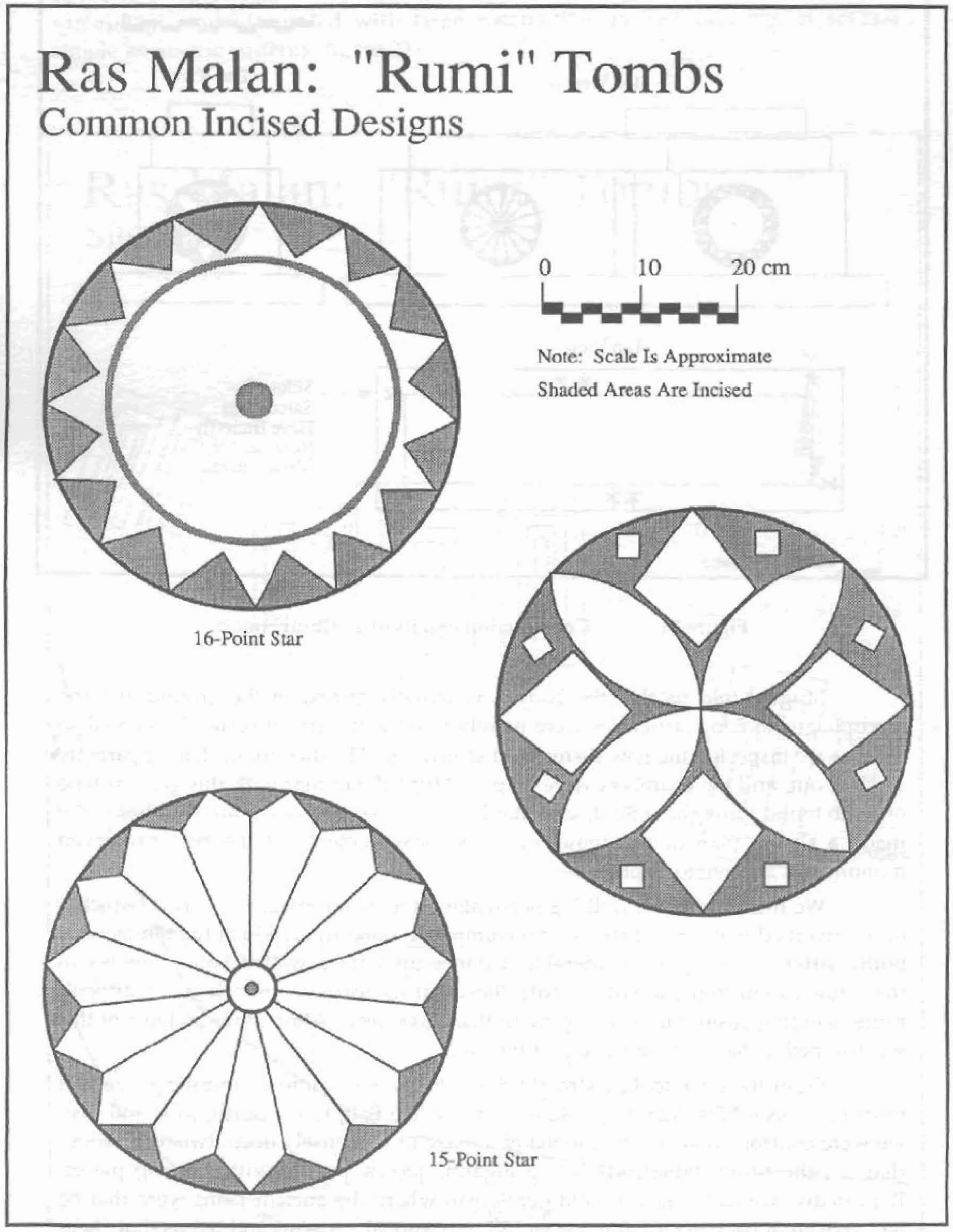


Figure 22 Common carved designs on "Rumi" tombs



Plate 64
"Rumi" tombs, general view

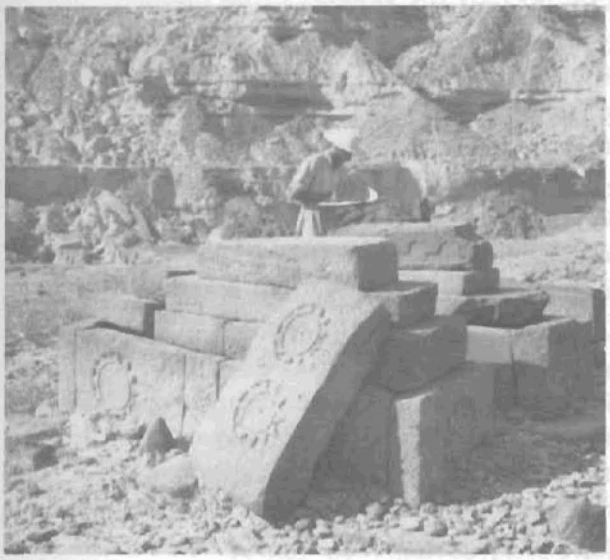


Plate 65
"Rumi" tombs—Rafique Mughal making notes

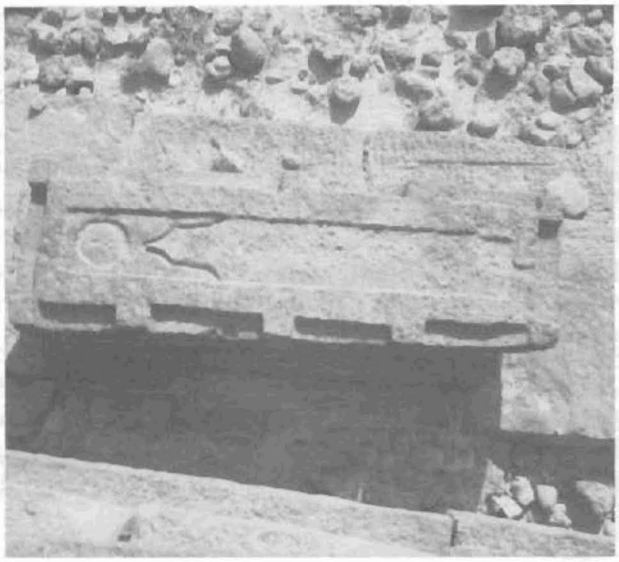


Plate 66
Top view of one of the "Rumi" tombs

In order to get to a point one mile away, we would have had to walk perhaps five miles to skirt the deep ravines. It was at least ten miles as the bird flies to the northwestern corner of the promontory where we calculated the old telegraph line dropped off the sheer eastern cliff on its way to the Hingal Valley, and eventually to Karachi. (How did they do it—stretch that telegraph line for hundreds of miles over such terrain?)

Still interested in seeing the old telegraph line, we asked the old man if he knew if it was near. Yes, he said, he remembered where part of it still remained. After twenty minutes of walking, and some rethinking on his part, he said that he now remembered that it was a very long time ago when he had seen one remaining pole somewhere down on the beach east of the Ras. So much for the telegraph line.

We could easily have spent a week exploring that rocky maze, but our schedule would not allow it. Also, we were discouraged by the lack of reliable information and the surfeit of misinformation that we had received.

After walking another half mile or so to the east to get to higher ground, we could not see anything that we had not already seen. We found a lone, tortured tree, built a fire in its sparse shade, heated our canned Beenie-Weenies, and rested our aching bodies for forty-five minutes. We also finished off our drinking water supply (six quarts), anticipating that we could get good water from a riverbed pool on the way back to the boat.

Instead of retracing the route we had taken to reach the top of the plateau, we went farther east, clear to the head of the Sorab Kaur. We walked up and down rocky ridges for quite some distance along the southern edge of the valley in search of a place where we could descend. Finally we found a likely place next to a good-sized waterfall—then dry. The valley floor was more than a thousand feet below us, but it did not appear to be a dangerous descent so over the edge we went.

At the bottom was a small stream that appeared to come from a spring. In spite of the thick coating of algae on the surface, the water itself was crystal clear, cool, and delicious—the best water I remember having in Pakistan. We gorged ourselves on that liquid delight, took a brief rest, and headed down the valley (Sorab) toward the sea. It proved to be a four-and-a-half-mile walk, mostly along the dry riverbed. Not far below the place where we had gotten our water, we came to another waterfall, some twenty to twenty-five feet high, with a little water flowing over it into a small pool. Two little boys and a little girl were playing in the pool. Where had they come from? They walked with us all the way to the three-hut village at the mouth of the valley.

Exhausted, we started the final four-mile trek. The scenery was spectacular along the way: barren, sheer, sandy cliffs eroded into fantastic forms. We saw several small water holes that had been dug into the riverbed. The ground water level was clearly quite near to the surface even that late in the season. About one mile before we reached the valley mouth, we saw a camel standing in the riverbed drinking water out of a bowl! As we got closer we saw the head of a small boy popping in and out of a hole in the ground. He was standing in a water hole, lifting water from it with a pan and filling the camel's bowl. What lengths one has to go to to survive in such a place.

At 4:30 we reached our campsite on the beach. Barbara had a gourmet meal prepared for us: rice and chicken, beef steak patties, and bread. But it was getting late, and we wanted to be on our way back to Ormara before dark. We devoured the food hastily and decided to hold off on the tea until we were underway in the boat.

Getting out to sea proved to be another adventure. The surf was high with five- to six-foot breakers. We all helped push the boat down to the water's edge. Then Barbara, Cuyler, and I jumped into the boat, put the reed mats over the bed rolls, stuck the cameras and knapsacks under the aft deck boards, and prepared for a wild ride.

The crew had a difficult time getting the boat through the surf and keeping it from turning sideways. One wave broke directly on the boat and soaked us thoroughly. When we finally got out past the breakers, the boat was put into running order: the sail hauled up, lines arranged in their proper positions, but, alas, no wind.

The sun was setting as we rowed off to Ormara. The crew rowed diligently for two hours, and we were making quite good time, but they could not keep it up much longer. Our minds were distracted from the wind and rowing problems by watching the amazing display of phosphorescent algae on the water surface. At the slightest touch of the water's surface with your hand, a bright light exploded. It looked like an infinite number of brightly shining fireflies were in the water. The display set up by the oars was even more spectacular.

That beautiful phenomenon was unexpectedly helpful in navigation because the location of the breaking surf was well marked by these strange lights. Hence the helmsman was kept aware of how close we were to shore. But, it did not take long for the novelty to wear off. We could not relax because we had to stay cramped up in the central "hold" atop the wet bedrolls. All night the crew was busy alternating rowing, raising and lowering the sail, and rowing again.

Saturday, November 12

Thankfully, a light breeze kicked up in the middle of the night and the return to Ormara took only twelve hours instead of the twenty-four it had taken to get to Ras Malan.

We were damp, cold, cramped, tired, and I am not sure what else as we jumped off the boat into the surf at Ormara beach. Two nights with little sleep, separated by a full day of the most strenuous trekking we had done during the entire trip, left us exhausted. Fortunately, the food inspector who had moved into the Rest House the day we left for Ras Malan had moved out to take other quarters.

A most delightful surprise awaited us for lunch. Our Fisheries friend, Omar, brought over a dozen fresh oranges that his cousin had gotten off the launch from Karachi—the first fresh fruit in over six weeks. (The launch had arrived on Thursday, and we were scheduled to return to Karachi on it.)

The tahsildar had returned from an inspection trip of his district (which runs from Kalmat in the west to the Hingal in the east). He had just completed a forty-mile camel ride in eight hours. Civil servants at these remote posts did not have the best of all possible lives. He was an unusually friendly fellow, seemed efficient, and was surprisingly interested in and well-informed about the geography and things to be seen in his district. If only he had been in Ormara when we first arrived: we would certainly have obtained more reliable information about the region.

He informed us that the proposed coastal road project had flopped as far as this section of it was concerned. The stretch between Ormara and Hingal to the east, especially the Buzi Pass part, was just too tough for road building. Contrary to what the postman had told us, the tahsildar said that the mail from Karachi goes to Liari, on the western side of Sonmiani Bay, and then along the coast to Agora near

the Hingal Valley by truck. There it was transferred to camels for the six- or seven-day trek to Ormara. At Buzi Pass, the path is so narrow that the mailbags and other cargo have to be lifted up and down the steep cliffs by chains.

As for the stone circles we had seen on top of Batt Plateau, he said they were—and are still—made by the Zikris[28] who make up two-thirds of Ormara's population. A circle five to ten feet in diameter was constructed from a single course of stones and in the center was placed one or two stones. Then, they would sit around such a circle and say prayers, make recitations, etc., possibly with a special person standing in the center. The same circles were used for weddings. The bride and groom would stand in the center and were given a shower bath.

Sunday, November 13

We were up at 7:00 after a refreshing sleep. I spent most of the day taking color photographs of the sherds and objects we had collected during the survey. Cuyler and Mughal worked on the drawings of the Sotka Koh pottery. At 4:00 we went again to the house of Sherali, the cousin of our Fisheries friend. His uncle from Karachi—a prominent figure in the fishing industry—was also present. They put out a wonderful spread for us: Pakistani sweets from Karachi, nuts, Pakola (soda pop), cakes, jello, dried fruits, fresh oranges, and tea.

Next we visited the bazaar to see the shipping agent about the launch. We were ready to go, but he refused to send the boat back to Karachi until Tuesday. Quite obviously he was stalling in hopes of getting more cargo to take. There we were, top-paying passengers (14.5 rupees each—$3.05), stranded until he could get another bundle of mats.

On our way back to the Rest House, we stopped by the tahsildar's office and noticed an unusual amount of activity and excitement. A cable had arrived announcing that the deputy inspector of police of Karachi District was arriving the next day by small plane. Las Bela District had recently come under the administration of Karachi, and he was coming to set up a new police post. We were informed that we would have to vacate our rooms the next morning.

Still there were pleasures to be had. For supper we had local lobster: seven good-sized ones for seven rupees—about $0.21 each. The tails were meaty, but they had no pincers.

Monday, November 14

The day was full of anticipation and anxieties. Although we had been informed yesterday that we would have to vacate our rooms for the visiting police official, we had not been given any information as to where we could stay until the boat departed for Karachi. We were all anxious to return to Karachi, being tired and admittedly disappointed about the failure to discover more evidence for ancient coastal sites. But, on the other hand, we were nearing the end of an unusual period of excitement, anticipation, and freedom that transcended all the bureaucratic hassles and episodes of frustration and exhaustion.

We kept ourselves busy—each to his own—drawing sherds, finishing odds and ends of paperwork, and rearranging already rearranged packing. We were informed that the launch would definitely depart the next afternoon. We saw that all day workers were busy loading bundles of reed mats and containers of dried fish into the boat.

I calculated the mileage covered during our month and a half of survey—including the return to Karachi:

Country Craft	460 miles
Motor Launches	160
Sailboats	90
Camels	100
Jeep	65
On Foot	100
Total Distance	975 miles

This calculation does not include the numerous local treks to cemeteries and the daily area surveys at Sutkagen Dor.

The deputy commissioner of police did not show up, so we were permitted to remain in the comfort of our rooms. The tahsildar was as disappointed as we were relieved. He had worked feverishly to spruce things up for him. He had had the schoolchildren give the school and surrounding grounds a good cleaning up. A special meal had been prepared for the commissioner and local dignitaries, but no commissioner. Rumor had it that, in fact, he would be coming for a day's hunting trip instead of for official business.

Tuesday, November 15

First thing in the morning, we finished packing. At 9:00, Omar came by and invited me to visit the largest of the fish preparation plants where fish were salted and dried for export—mainly to Sri Lanka (Ceylon as it was called then). It did not take long for me to get my fill of the gory and malodorous fish preparation industry. I was relieved to get out of the place and to return to the fresh air at the Rest House.

At 1:00 we shifted all our baggage to the beach and made final preparations to board the launch for Karachi. As we had experienced at the other "ports" along the coast, the water was so shallow that the launch had to anchor quite a distance offshore. We hired the same sailboat that had taken us to Ras Malan to transfer us out to the launch. There was a favorable breeze, but it took forty-five minutes to reach the launch and another half hour to hoist all our gear aboard. The captain greeted us, told us that we would weigh anchor at 4 P.M. and that the trip to Karachi should take about sixteen hours.

The launch, named *Alladini* (*"God Given"*), was a bit larger than the *Mujahid* that had brought us out from Karachi. It had a sleeker hull and a reliable, three-year-old diesel engine. But there seemed to be no cargo hold to speak of. All the reed mats, dried fish, and 250 live lobsters going to Karachi were piled on the open deck. The passengers situated themselves atop the bundles of mats. We took over the choicest spot—right on top of the roof of the captain's cabin and wheelhouse. We had plenty of room to spread out and prepared for a comfortable journey back to Karachi.

Wednesday, November 16

The starry night sky was beautiful and the temperature ideal, just cool enough for one blanket. We had the best sleep in weeks—on top of the deck house and all.

At 10:00 the ship rounded Monora Point and entered Karachi harbor. By 11:00 we were on the dock starting through an amazingly short and simple Customs check. Noor, having arranged for three taxis, saw us safely and comfortably back to the Central Hotel.

Our first independent archaeological venture was over. Barbara went immediately to PAN-AM to arrange for a flight to get her home to our two daughters by Thanksgiving. Cuyler had to return to Iran within a few days. I was confronted by a myriad of tasks to perform before I could leave for Iraq where I would go directly to the excavations at the Sumerian holy city of Nippur. I was to represent the Royal Ontario Museum of Toronto as photographer for the University of Chicago's expedition.

The first obligation was to the Pakistan Department of Archaeology. I submitted a preliminary report on the expedition to the director general. He seemed quite pleased with the work and invited me to apply for another expedition permit when my new job situation in Toronto was more settled.

Our expedition permit allowed for a division of the finds. All of the pottery had been taken from the boat directly to our room in the Central Hotel. Mughal came to the hotel two days after our return to divide the pottery. We spread out each excavated "lot" of sherds and split it into two groups: one for the department and one for the University Museum. Unique sherds all went to the department but otherwise, the sherd groups provided each institution an almost equally representative collection.

Then followed two weeks of hectic activity until I was finally able to leave Pakistan for Iraq. Hours of work were required to complete the bookkeeping after the division of the sherds. Also, because it was not certain when, if ever, I would again see the Department of Archaeology's share of the sherds, I checked each one again for the accuracy of the drawings and descriptions.

The cholera epidemic that had been ravaging Pakistan since before our arrival, continued unabated, causing a temporary ban on travel from Pakistan to the Near East. That gave me the opportunity to travel to the north, to Lahore, to see the Department of Archaeology's archaeological collections stored in the Mughal period Old Fort. I was allowed to spend several days inspecting and taking notes on all the pottery collections that had been made in Baluchistan by Walter Fairservis, Beatrice de Cardi, and the Department of Archaeology. This study provided me with a basic knowledge of the tremendous diversity of the ceramic history of Pakistan that would have taken years to obtain otherwise.

Back in Karachi I received a telegram that forced a further delay in my departure date, but it turned out to be a delightful one. My professor at the University of Pennsylvania who had turned my career to the Indus civilization—the noted Sumerologist, Samuel Noah Kramer—and his wife Millie were to arrive in Karachi on November 29. For years he had written extensively about the identification of the Sumerian paradise land, Dilmun,with the Indus Valley. It was the result of my classes with him, and his urging that there should be an archaeological expedition to search for evidence to confirm that identification, that I had planned the Makran survey. And now, the professor himself was coming to visit his Dilmun.

Their visit was quite a social and cultural event in Karachi. He and his writings about Dilmun were well known among Pakistani intellectuals and the foreign community as well. The American embassy and the Department of Archaeology arranged a busy schedule of visits to archaeological sites, talks, and

social events. Some of these involved me because of the Makran explorations. Arrangements were made for Kramer and me to be interviewed on Voice of America. Several Pakistani newspapers called us for interviews. It was all an intoxicating experience for me—a brand new Ph.D. about to start on his first professional job. And to go with Kramer to visit the Director of Archaeology helped set the tone for my future involvement in Pakistani archaeology. Dr. F. A. Khan was charmed by Kramer and his "paradise" theory. He reacted by suggesting that the good relations that we had established through the Makran survey should continue on a long-term basis. He invited me to return to conduct a large-scale excavation over a period of years. At the time I had no idea that, after three years with the Royal Ontario Museum in Toronto, I would return to the University Museum in Philadelphia and begin a research program that would involve me with the Indus civilization for the following twenty-five years.

Paradise we did not find. Dilmun has now been identified almost certainly with Bahrain in the Persian Gulf. But Makran opened our eyes to the fascinating world of the ancient Indus civilization and its manifold mysteries. Paradise was lost, but there are riches and memories that surpass anything that might have been found there.

PART II

EXCAVATIONS AT SUTKAGEN DOR

INTRODUCTION

The discovery and first excavations at Sutkagen Dor by Major Mockler in 1875 and the excavations there by Sir Aurel Stein in 1928 have been discussed in Part I.

Our concern with the site stemmed from our interest in discovering new archaeological evidence bearing on the question of coastal contacts between the Indus civilization and the Near East. It was necessary first to verify the cultural identification of the site. Stein, although aware of the discoveries being made at Mohenjo Daro and Harappa at the time that he was conducting his Makran survey, did not make a strong case for the importance of Sutkagen Dor's possible strategic role in the external relations of the Indus civilization. The descriptions of the site by both Mockler and Stein, viewed from the perspective of the late 1950s, took on exciting new importance. Indus studies had progressed dramatically since Mortimer Wheeler had directed archaeological research in Pakistan and India during the 1940s. The time was ripe for a reexamination of a major site such as Sutkagen Dor.

Our license stated specifically that permission was given for exploration and that no "excavations" of prehistoric sites was allowed. Fortunately, there was an unspoken understanding that digging a limited number of small test pits did not qualify as "excavations." With the permission of Mr. Mughal, our representative from the Department of Archaeology, we conducted four such small test operations—three on the citadel (A-A/1, B, D) and one just to the east of the base of the citadel (C) (figure 23).

OPERATION A-A/1

This was the primary exploratory excavation: an L-shaped trench against the interior face of the western citadel wall (figures 23 and 24; plates 14 and 18). The location was selected during our initial surface explorations of the citadel; it was the only place within the citadel where we had noticed traces of wall alignments. Mr. Mughal was in charge of the test excavation and was assisted by Cuyler.

TRENCH A

The initial phase of Operation A, consisted of Trench A, laid out north-south, parallel with the line of the western citadel wall, about eight meters from the inner face of the wall. The limits of the trench were measured out and the corners staked to delineate a rectangular area 1.5 meters wide and 10 meters long (plate 18).

The first scraping of the surface consisted of a 10- to 20-centimeter-thick deposit of loose grey soil with small stone chips and some pottery sherds, all apparently washed down from the steep stone ridge that formed the northern limit of the citadel. Directly beneath that surface debris, the tops of three intact stone walls, running east to west through the trench, were revealed (figure 24; plate 29). The southernmost (Wall 1) and the middle wall (Wall 2) were carefully constructed of rough-shaped stones and were associated exclusively with Harappan sherds. The third wall (3), at the northern end of the trench, was thinner than walls 1 and 2, less carefully constructed, oriented at a slightly different angle, and had the exact

appearance of the remains of the latest phase of rebuilding that was seen at various locations on top of the massive Harappan citadel wall. No sherds were associated with it, and we surmised that it might even be of historical date (plate 28).

The stratigraphic levels beneath the tops of Walls 1 and 2 were numbered consecutively, as follows (figures 25 and 26):

Level 1

Compact brown soil and some scattered stones extending unbroken between Walls 2 and 3.

Level 1A

Soft reddish soil: the color probably resulting from decayed fired brick and pottery. No sherds.

Level 2

Hard whitish earth composed possibly of wash from the mudbrick rampart-like structure against the inner face of the stone citadel wall (see below, Trench A/1).

Level 2A

Irregular stratum with scattered large stones.

Level 3

Loose ashy soil containing small charcoal pieces and pot sherds; some brownish patches of burnt earth. This is the first occupational stratum associated with Wall 2 (that was cut down into Level 4).

Level 4

Loose brownish soil with some small charcoal pieces. The foundation trench for Wall 2 was cut down into this stratum.

Level 5

Loose brownish earth containing ash, small charcoal pieces, a few stones, and sherds.

Level 6

Well preserved occupation surface: compact—possibly of rammed earth. Four fragmentary fired bricks were imbedded in the compact surface (plate 29).

Level 6A

Layer of small stones, deliberately spread as a foundation for floor 6.

For levels below 6A, see below under Trench A/1.

TRENCH A/1

For the purpose of better understanding the architecture exposed in Trench A, and to relate the stratigraphy of Trench A to the massive citadel wall, an east-west extension trench (A/1) was excavated along the northern face of Wall 2 (figure 24; plates 18 and 25). Like Trench A, this trench was 1.5 meters wide. The combined trenches provided an east-west section 9.5 meters long against the inner face of the citadel wall. Unfortunately, the field drawing of the southern section of trench A/1

has been misplaced over the years and has been reconstructed here, in part, from field notes (figure 28).

Prior to beginning the excavation of Trench A/1, the top and inner surfaces of the massive stone wall were cleared of debris and examined. Its inner face had a uniform batter of 5 degrees and was preserved to a height of 3.35 meters above the horizontal surface of the inside of the citadel at that point. Twenty-five or twenty-six courses of stone, more or less equal in height, were observed.

Directly beneath the thin layer of surface debris, at the western end of the trench, the eroded upper surface of a solid mudbrick construction appeared (plates 22 and 23). It measured 2.3 meters wide and ran parallel with the inside surface of the stone citadel wall. The bricks, set in mud mortar, had an average size of 12 x 20 x 41 centimeters but dimensions of individual bricks varied considerably (e.g. 12-13 x 19-20 x 40.7-50.8 cms.).

The mudbrick structure was preserved to a height of 3.35 meters (figures 27 and 28). It was constructed on a foundation of small stones and sand filling (Level 10A) that had been laid on the natural surface (plate 24). There were no indications of rebuilding or modifications in the structure. However, a secondary stone facing—two to three stones high—had been placed at the juncture of the Level 4 floor surface and the mudbrick structure either to provide protection against erosion at that level or to repair damage that had already occurred (figure 24; plate 26). Given its massive size and its position along the inner face of the main stone citadel wall, the mudbrick structure may have been a rampart, or better still, a "banquette," or raised step behind the stone wall that would allow guards or lookouts to walk protected behind the stone parapet.

The depositions in the rest of Trench A/1, from Levels 1 to 6A, correspond to those recorded in Trench A (except that Level 3 was not noticed in Trench A/1). In Trench A/1, the excavation was carried down to the natural surface. The stratigraphy of this trench is as follows (figures 27 and 28; plates 24 and 25):

Level 1

Compact brown soil with some scattered stones.

Level 1A

Soft reddish soil with no sherds.

Level 2

Hard whitish soil composed of wash from the mudbrick structure.

Level 2A

Scattered large stones: fallen wall or broken paving?

(Level 3: not seen in Trench A/1)

Level 4

Thick deposit of loose, brownish earth with scattered charcoal pieces upon which Wall 2 was constructed. There was a gap of 1.68 meters (5' 5") between the western end of Wall 2 and the face of the mudbrick "rampart"—presumably a passageway leading to the room bounded by Walls 1 and 2. This passageway was subsequently blocked by the construction of the stone wall 2B (plate 27).

Level 5

Loose brownish soil with ash, charcoal, a few stones, and sherds.

Level 6

Compact occupational surface. Stones were placed against the base of the mudbrick "rampart," apparently to repair erosion damage (plate 26).

Level 6A

Stone and earth packing or fill.

Level 7

A pocket of loose ashy soil mixed with brownish earth, charcoal, and sherds.

Level 8

Occupational level with loose ash and charcoal. A group of stones, in the same arrangement as those forming walls, was found in the southeastern corner of the trench, but the exposure was too limited to ascertain whether it actually had been a wall (figure 24).

Level 9

Compact brown soil with some charcoal, stones, and sherds.

Level 10

Mixed debris with small and medium stones associated with the massive stone wall and mudbrick structure.

Level 10A

Deliberate layer of small, crushed stones and sand that provided a foundation for the mudbrick structure.

Level 11

Soft, loamy soil with alternating bands of fine-grained sand. The few Harappan sherds were differentiated from the pottery found in the subsequent levels in that the ware was highly micaceous.

Level 12

Alternating bands of clay and sand; no sherds; appeared to be wash on the original natural surface.

The sequence of human events, as revealed in Trench A-A/1, can be reconstructed as a sequence of seven phases. (N.B. This is my interpretation of the field notes and drawn sections. There are a couple minor discrepancies between this version and the one submitted to the Department of Archaeology by Dr. Mughal, but this is to be expected given the limited area exposed in the trench in relation to the size of the citadel.) The seven phases are:

Phase 1

Level 11: the earliest presence of the Harappans who presumably brought with them micaceous pottery from Sind.

Phase 2

Level 10A: foundation laid for the citadel enclosure.

Level 10: construction of stone citadel wall and mudbrick rampart.

Levels 9 and 8: earliest occupations associated with the citadel enclosure.

Phase 3

Levels 7, 6A, and 6 (fired bricks in floor) (plate 29).

Phase 4

Levels 4 and 5: stone reinforcing against face of mudbrick structure.

Phase 5

Wall 2A constructed; Wall 2B constructed later to block passageway.

Phase 6

Levels 3, 2A (stone scatter), and 2.

Phase 7

Post-Harappan occupation (Wall 3).

OPERATION B

The external surface of the eastern stone citadel wall was more fully exposed than that of the western wall (figure 23; plates 15 and 16). A limited amount of clearing, supervised by Cuyler Young, was required to allow some measurements to be taken (figure 29). The outer, eroded surface suggested two major stages of wall construction (A and B). The lower (A), and more massive, had a slope of 23 degrees from the horizontal at this particular location along its length. But farther north, where there was a clear exposure of the outer face, the slope was measured at 40 degrees. If the interior face of the wall is vertical, the thickness of the wall at its base would be approximately 7.5 meters. The uppermost part of the wall (B), with an external inclination of 32 degrees, is probably of recent historical date and possibly associated with the stone circular structures ("*sangars*") built on the highest peaks of the citadel for the protection of lookouts and/or snipers.

An attempt was made to clear down a ways against the inner face of the wall, but the debris was so consolidated that our excavation tools were not adequate to get through it. The few courses of stone that were cleared had a vertical face. Unfortunately, we were not able to verify whether there was a mudbrick structure against the inside of the stone wall as we had discovered in Operation A-A/1.

OPERATION C

A small sounding was made by Cuyler Young in the "lower town" just to the east of the citadel (figure 23). The entire area was covered with sherds, and fragmentary remains of stone wall foundations were visible. But the area was severely pitted and disturbed, presumably by the excavations of Mockler and Stein, and exacerbated by decades of natural erosion. We were interested only in determining whether there were strata of human occupation beneath the surface remains.

The sounding went down 4.5 meters beneath the surface, through nothing but sterile silt, sand, and alluvial deposits. Mockler had reported seeing several distinct building levels in the "lower town," but it looked to us as though they no longer survived.

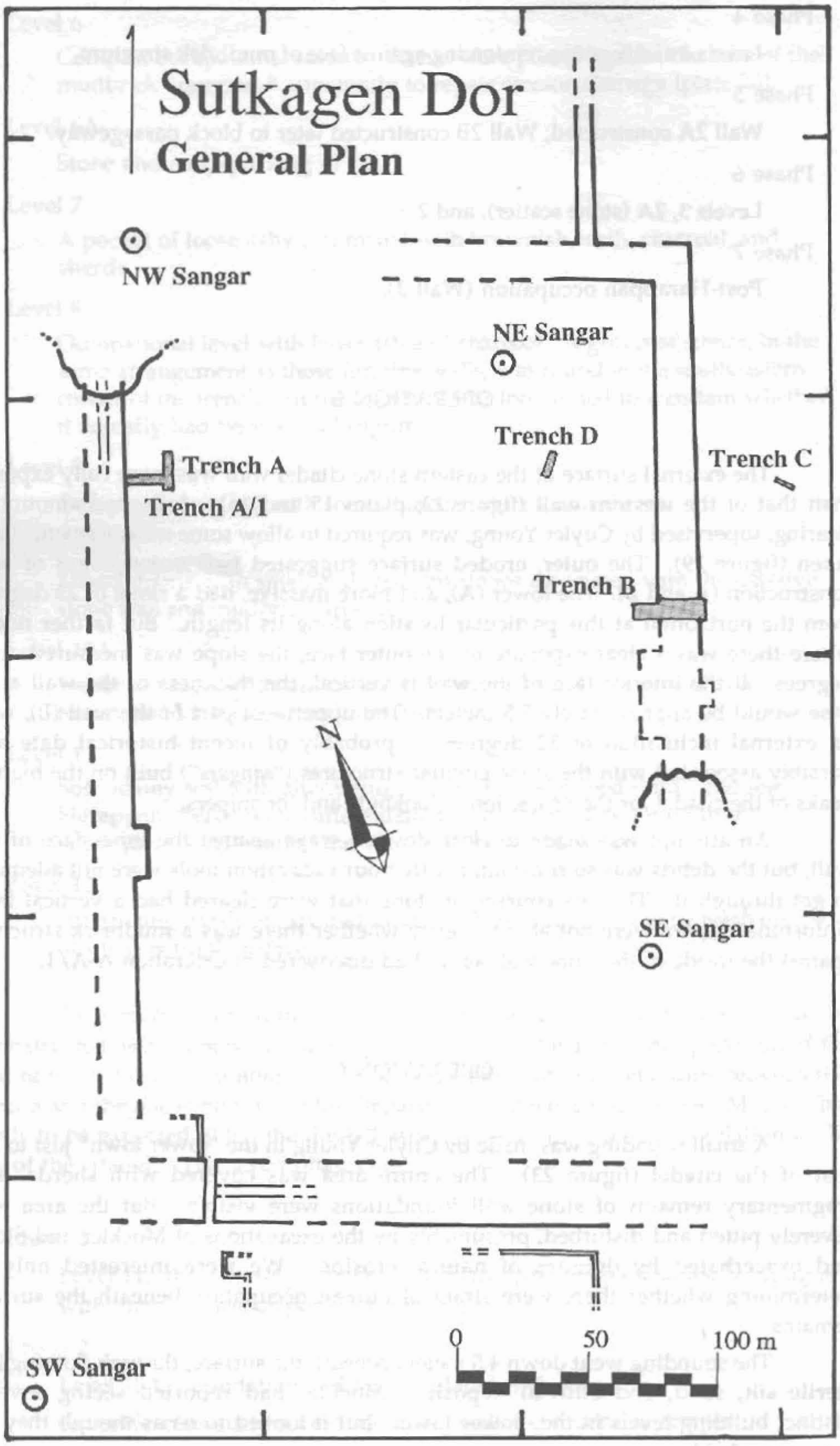
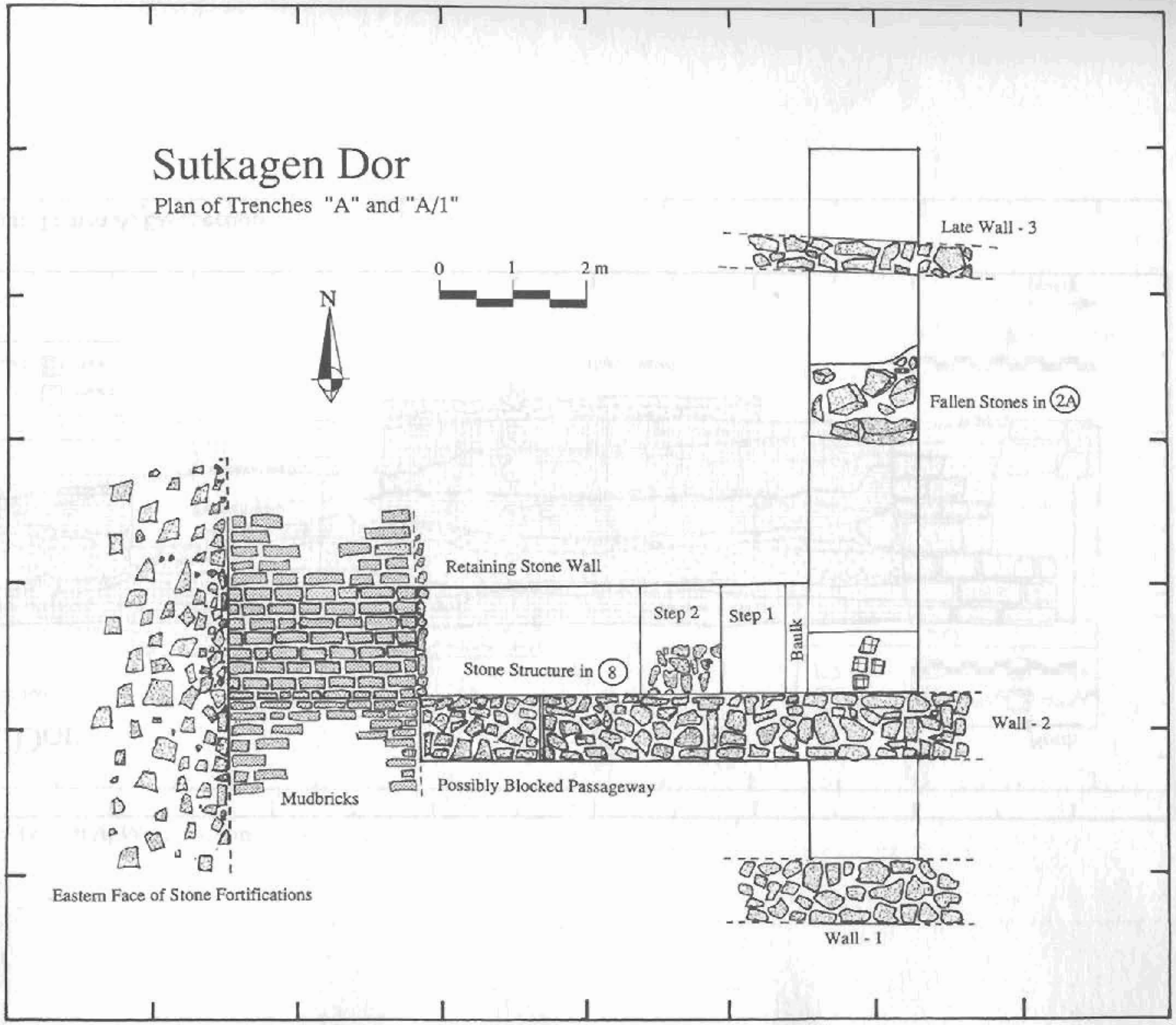


Figure 23 Sutkagen Dor: Plan of citadel and test excavations

Figure 24

Sutkagen Dor: Plan of Trenches A-A/1



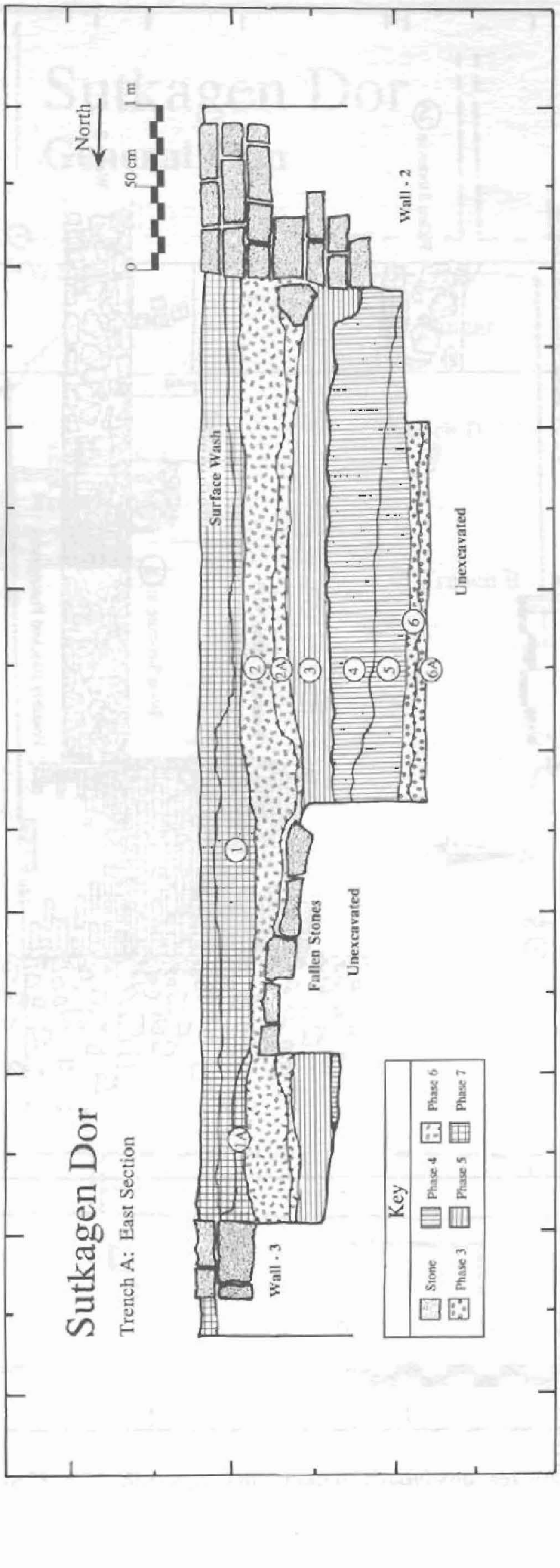


Figure 25 **Sutkagen Dor: Trench A, East Section**

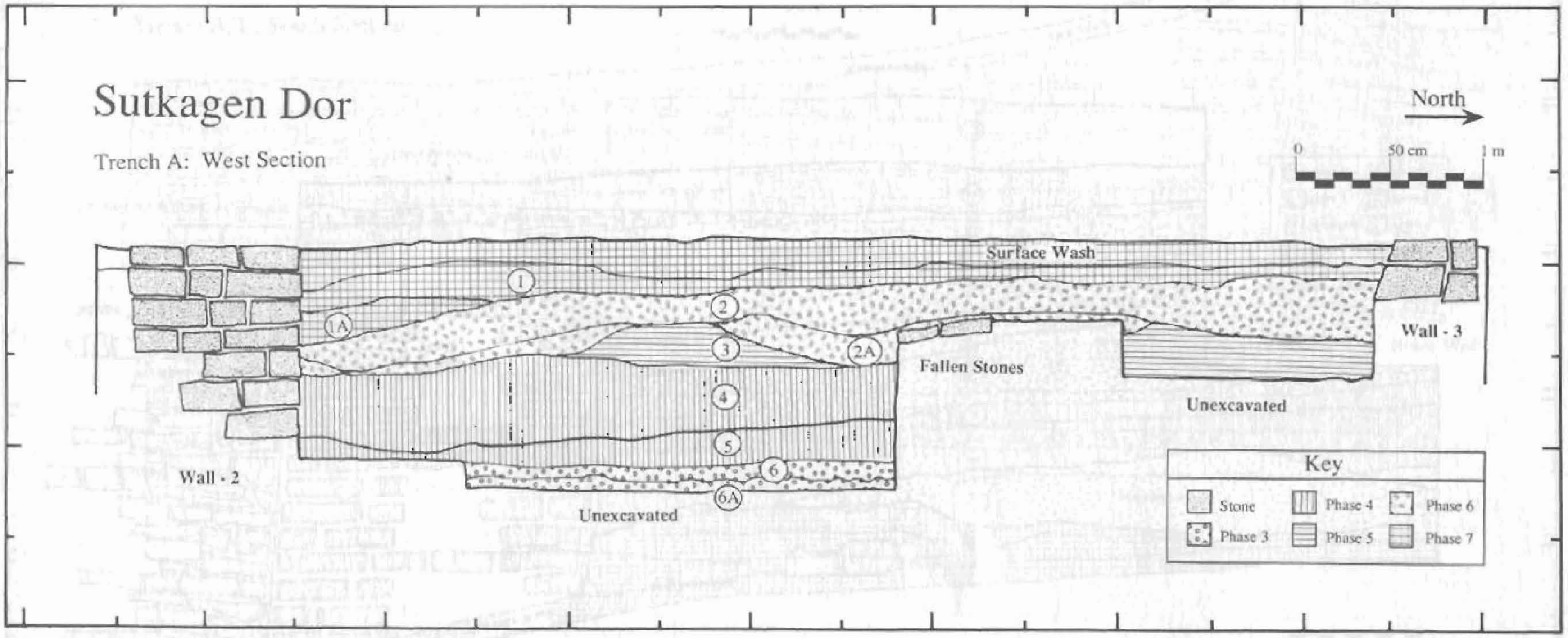


Figure 26 **Sutkagen Dor: Trench A, West Section**

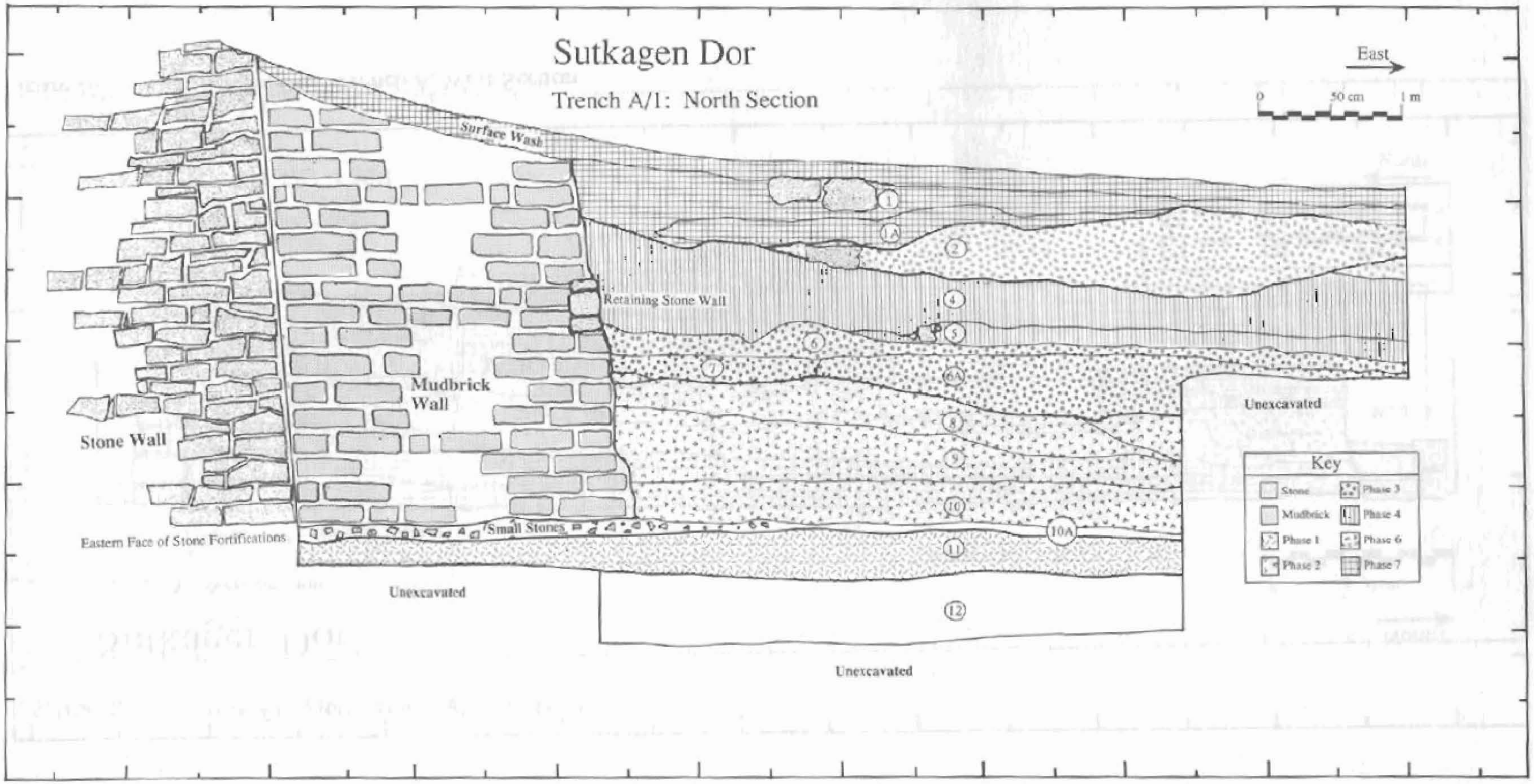


Figure 27 Sutkagen Dor: Trench A/1, North Section

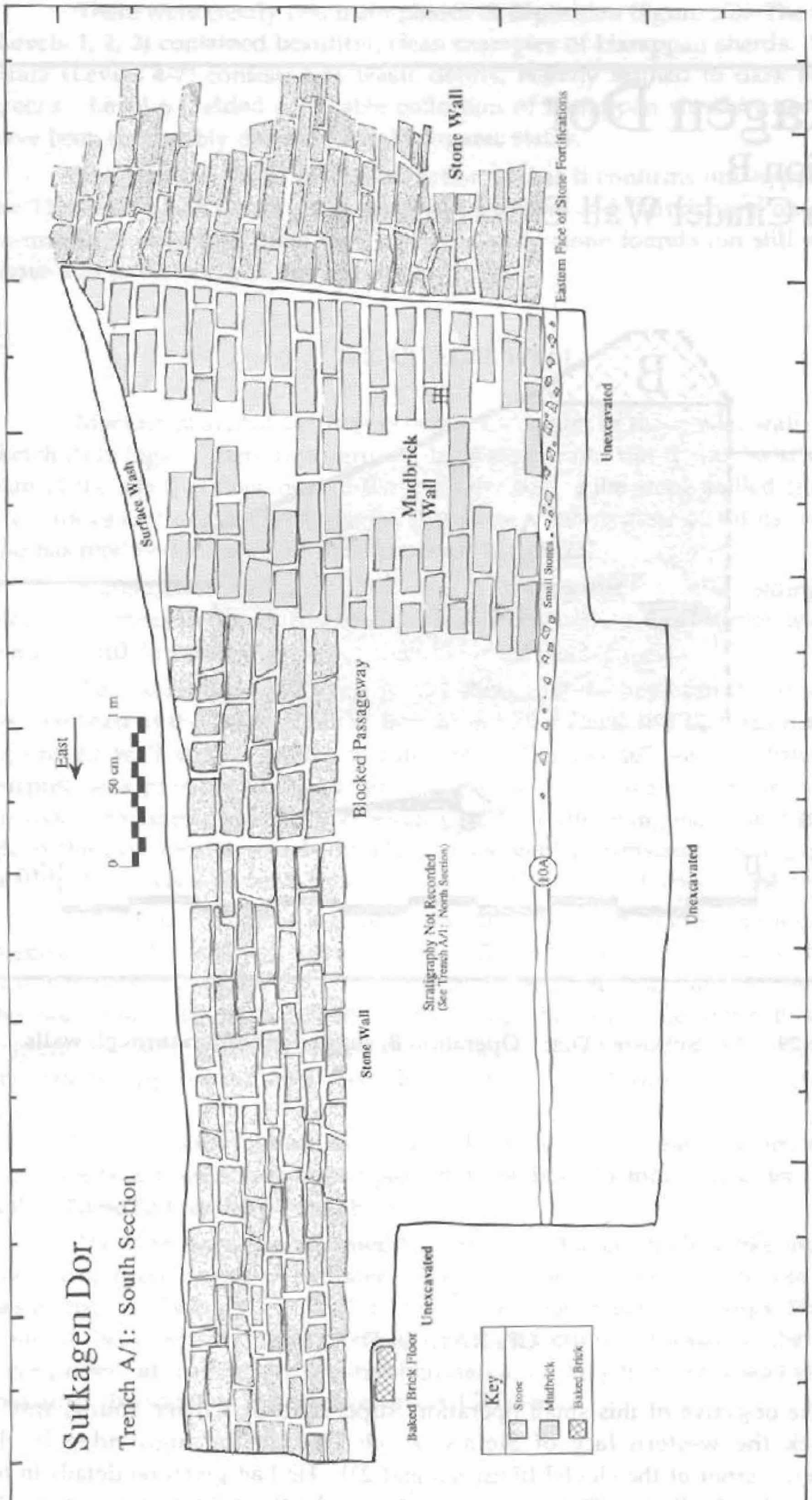


Figure 28 Sutkagen Dor: Trench A/1, South Section

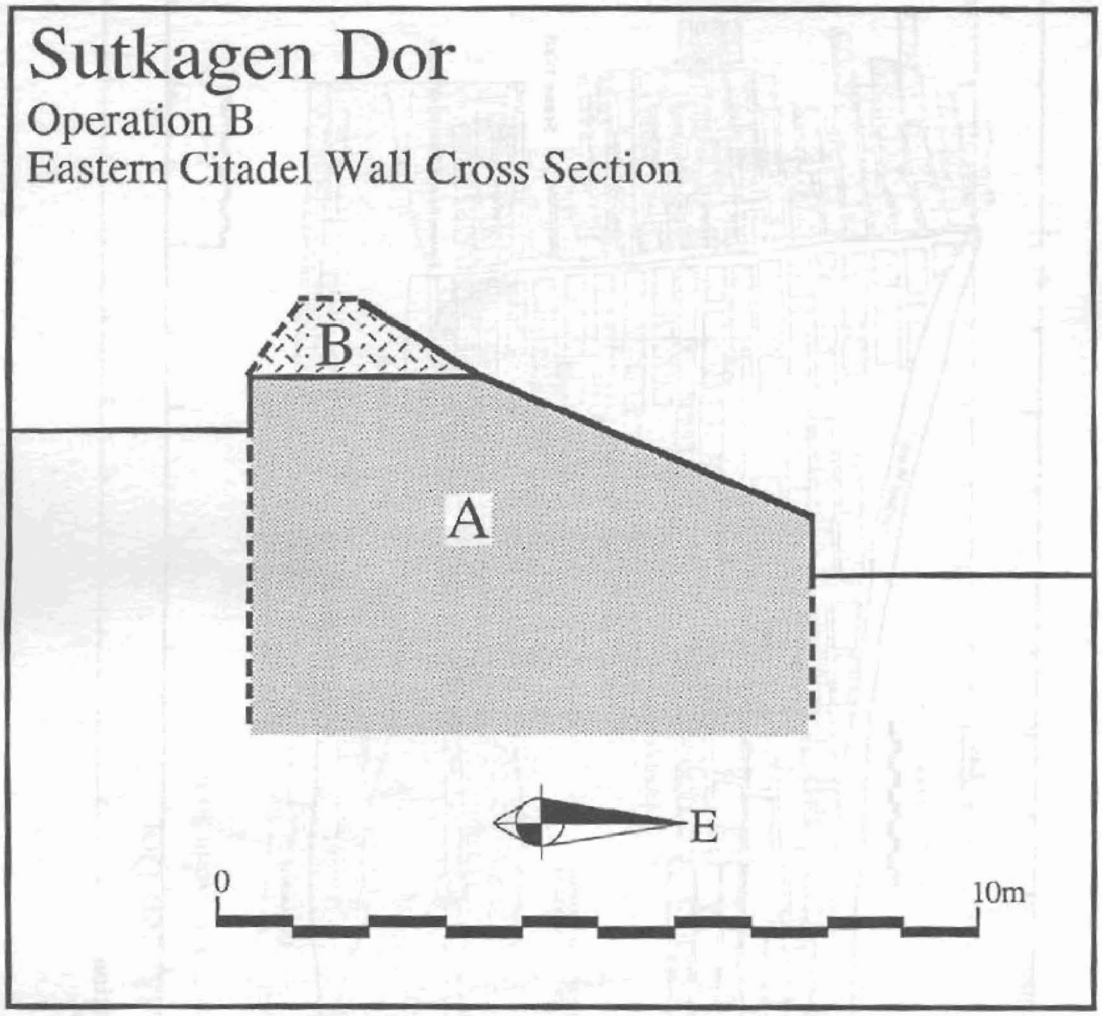


Figure 29 **Sutkagen Dor: Operation B, suggested section through walls**

OPERATION D

The objective of this small operation, supervised by Cuyler Young, was to shave back the western face of Stein's trench "ia" on the high ridge in the northeastern corner of the citadel (figures 5 and 23). He had given no details in his report as to his findings. The clearing went to a depth of 3.6 meters where the natural rock surface was encountered. No architectural remains were seen; only seven strata of sharply tipped wash and debris full of sherds, bits of charcoal, and water-smoothed pebbles.

There were clearly two main phases of deposition (figure 30). The upper one (Levels 1, 2, 3) contained beautiful, clean examples of Harappan sherds. The lower strata (Levels 4-7) consisted of waste debris, heavily stained to dark brown and greens. Level 6 yielded a sizeable collection of Harappan sherds whose surfaces have been irreparably damaged by the organic stains.

The positive result of this operation is that it confirms our hypothesis that the Harappans had constructed massive platforms and foundations on top of the natural rock outcrop. There was, in fact, a wide stone foundation still visible just above and to the north of this operation.

THE CITADEL WALL

Mockler provided the first general description of the citadel walls including sketch drawings of them from ground level (figure 4). But it was Stein's surveyed plan of the site that documented the immense size of the stone-walled citadel. Our excavations and clearing added some specific new information about its construction and has modified a few of his measurements (figure 23).

The enclosure measured 128 yards/117 meters east to west according to Stein's plan. Our measurements, repeated several times, correct this interior width of the citadel to 103.3 meters. We cannot account for the discrepancy.

Our excavations in Trench A-A/1 show that the height of the western stone wall (at least at the location of the trench) is 3.30 meters, and that against the inner face of the wall, a solid mudbrick platform, or "banquette" was constructed whose purpose was possibly to shield sentries patrolling the wall from direct attack by arrows or missiles. This interpretation is admittedly an *argumentum e silentio*, but given the extremes to which the Harappans went to construct such a formidable citadel, there may well have been the danger of "native" attacks on the settlement.

The surface cleaning we conducted on the eastern citadel wall (Operation B) suggests that the wall was approximately 7.5 meters thick at its base (if the interior face was vertical) (figure 29). The exterior slope is, at that point, 23 degrees from the horizontal although farther north along the wall, the slope measured 40 degrees. We were not able to determine whether there was a mudbrick platform or "banquette" against its inner face like the one we had found against the western wall.

Farther south on both the west and east walls, we found evidence for what may have been towers: solid stone projections on both the inner and outer faces of the walls. These had not been noted by Stein.

The gateway at the southwestern corner of the citadel has, like most ancient gateways, been modified by later inhabitants of the site. Stein measured the passageway as being 8 feet (2.45 meters) wide. Over the years since Stein's visit, some of the later rebuildings of the gateway had crumbled away so that when we were present at the site, the original foundation of the passageway was visible. We measured the width of the passageway as 1.75 meters.

ARTIFACTS

Twelve complete or fragmentary groups of artifacts were collected at Sutkagen Dor (table 1). They were registered and deposited with the Exploration Branch of the Department of Archaeology, Karachi (plates 67-76).

The collected artifacts appear to represent a sizeable portion of the catalog of artifacts ubiquitously present at other Harappan sites. More interesting than what artifacts were found is what was not found. No seals, figurines, beads, faience objects, or clay balls were discovered. Although the excavations at Sutkagen Dor were small, extensive surface surveys were conducted which gathered a representative collection of the variety of materials present on the surface. The work at Sotka Koh also located no artifacts other than pottery. The absence of certain non-pottery items at both major Makran sites is somewhat surprising and may reflect the difference in activities and function between these coastal sites and those more closely associated with central Indus Valley sites.

SUMMARY: SUTKAGEN DOR

Settlers from the Indus Valley arrived at this strategic location along the coast, bringing basic goods with them, such as pottery. After selecting this area of natural rock outcrops for their settlement, they constructed the massive stone walls that enclosed the huge rectangular citadel. Then—at least on the western side of the citadel—they put down a layer of small stones and sand as a foundation for the building of a massive mudbrick structure running along the inner face of the stone peripheral wall (figure 31). The mudbrick structure may have served as a "banquette" or walkway for lookouts to patrol the citadel walls.

Once established at the site, they started a local pottery-making industry and probably other activities that would assure their survival in this remote frontier post.

Several strata of occupational debris are seen in Trench A-A/1 that raised the living surface more than a meter inside the citadel. At Level 6, there is an excellently preserved floor (figure 28; plate 29), with a deliberately prepared foundation, and several fired bricks embedded in it. Repairs, of stones, were placed into the base of the mudbrick "rampart," presumably because of erosional or other damage at floor level (plate 26).

Two strata of debris accumulated on top of the Level 6 floor. Then, into the surface of Level 4, a small foundation trench was dug and the east-west stone Wall 2 was constructed (and possibly also the parallel Wall 1, but we did not excavate it to its foundation). Subsequently, the passageway between the western end of Wall 2 and the mudbrick "rampart" was closed off by the construction of Wall 2B (figure 24).

Except for the presence of a layer of what seems to be fallen, or at least unutilized stones (Level 2A), there is no evidence in the trench of why the Harappans abandoned the site. Furthermore, there is no evidence of post or "late" Harappan occupation of the citadel until historical—possibly quite recent—times.

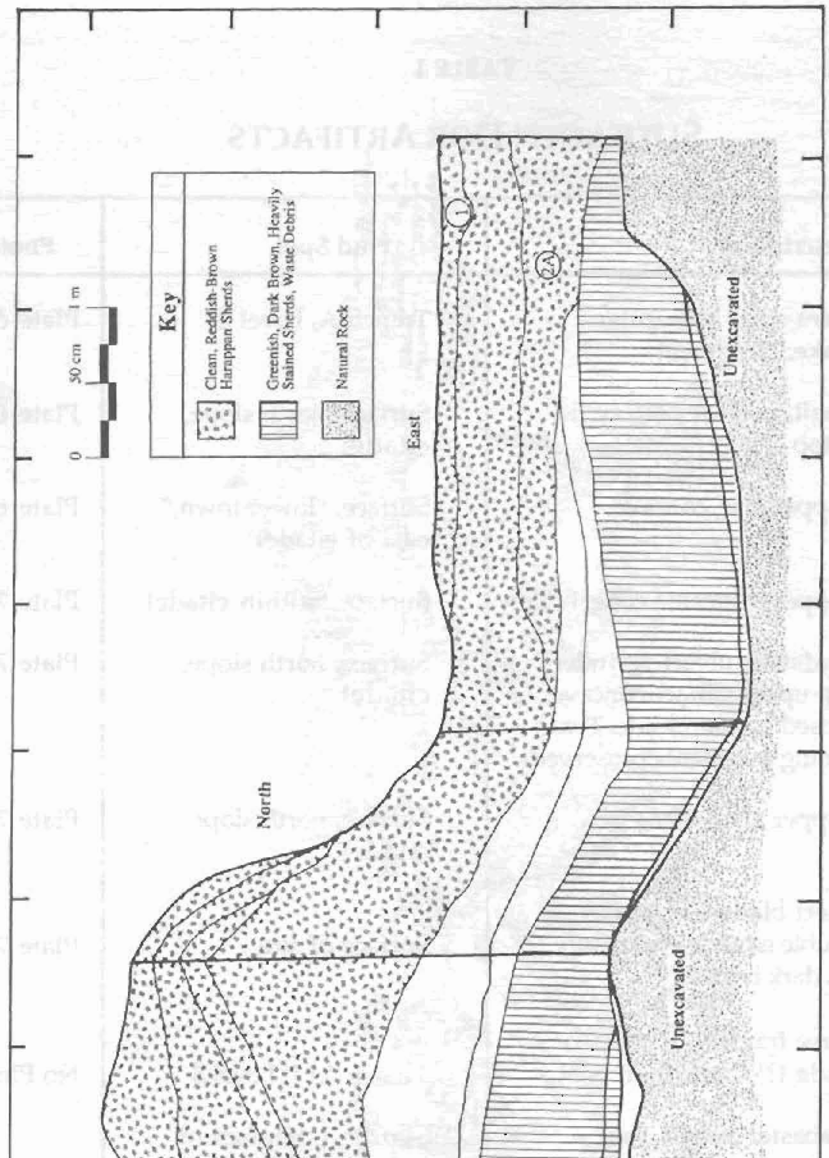


Figure 30 Sutkagen Dor: Operation D, Sections

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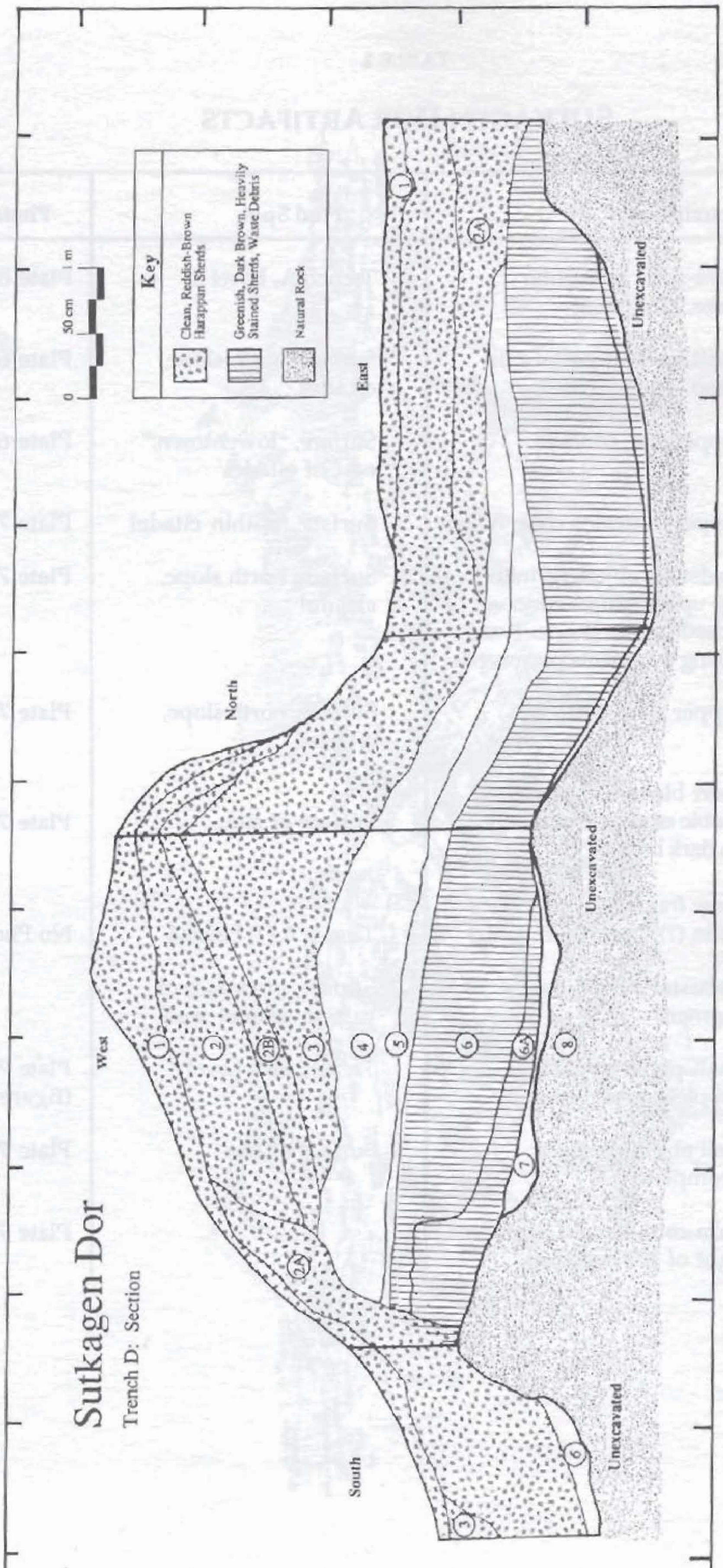


Figure 30 **Sutkagen Dor: Operation D, Sections**

TABLE 1

SUTKAGEN DOR ARTIFACTS

Field #	Description	Find Spot	Photo
1	Terra-cotta triangular "cake," fragment	Trench A, Level 2	Plate 67
2	Small, conical pottery lid or top	Surface, north slope, citadel	Plate 68
3	Copper disc, concave	Surface, "lower town," east of citadel	Plate 69
4	Copper truncated cone, hollow	Surface, within citadel	Plate 70
5	Sandstone object, (grinder?). Top upper surface concave, incised bands on side. Two joining fragments preserved.	Surface, north slope, citadel	Plate 71
6	Copper arrowhead	Surface, north slope, citadel	Plate 72
7a-d	Chert blade fragments, double edged: a = creamy, b = dark brown	Surface of site	Plate 73
8	Three fragments, copper blade (?); each thin, bent.	Trench A/1, Level 8	No Photo
9	Alabaster vessel, base fragment	Surface, outer face of eastern citadel wall	
10	Small pottery vessel, complete, wheel turned	Trench A/1, Level 8	Plate 74 (figure 34.11)
11	Shell object, incised, incomplete	Surface of site	Plate 75
12	Terra-cotta bangle fragments. Eight of 207 collected.		Plate 76

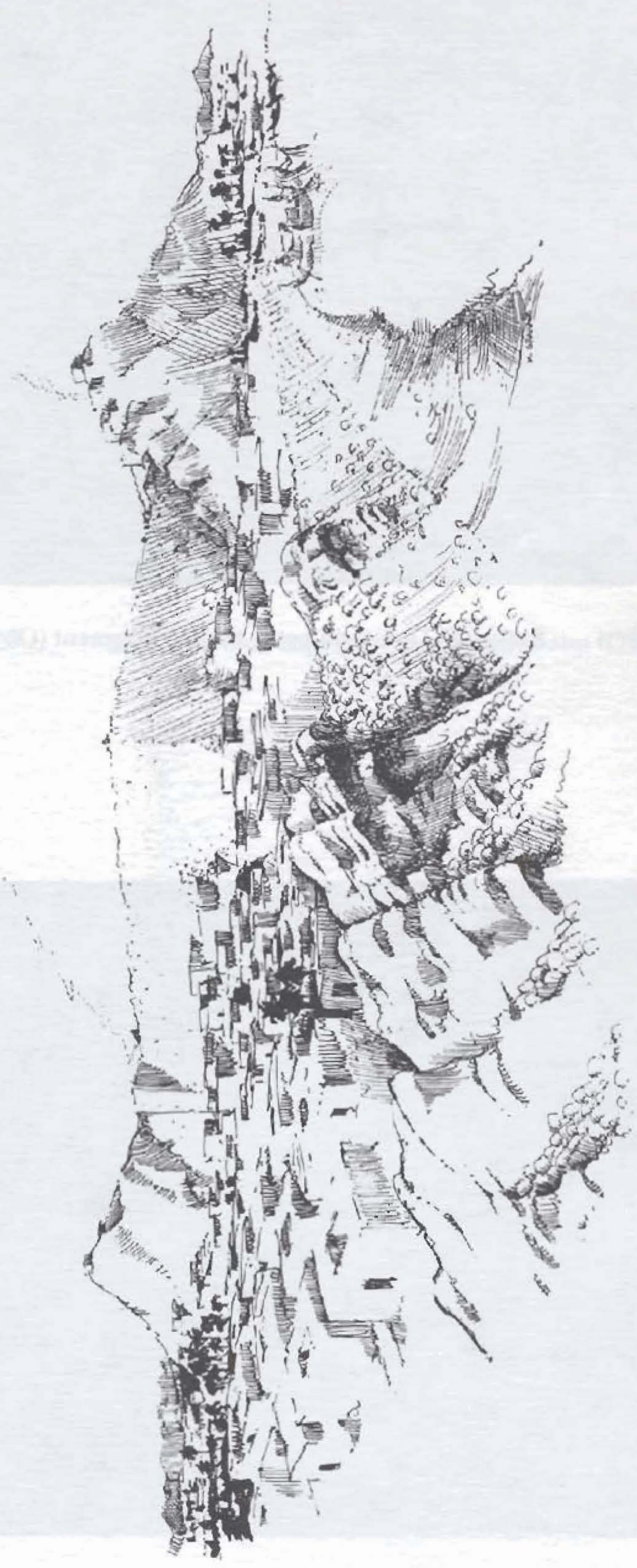


Figure 31 Sutkagen Dor: Suggested reconstruction (drawn by Michael Graham, Philadelphia, 1961)

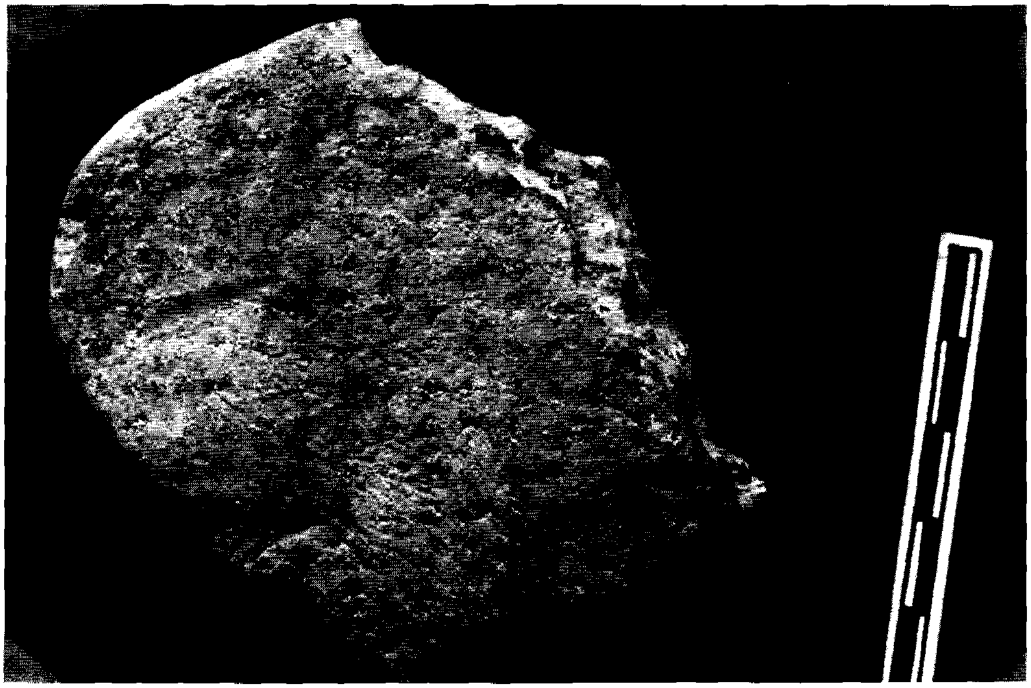


Plate 67 Sutkagen Dor, terra-cotta "cake" fragment (Object #1)

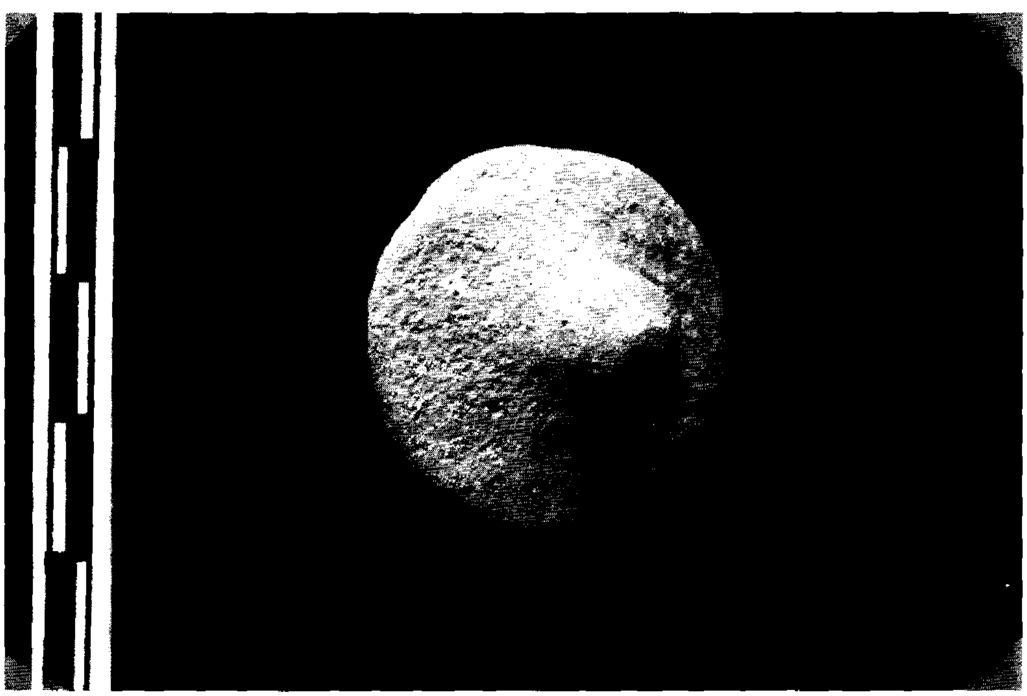


Plate 68 Sutkagen Dor, terra-cotta lid or top (Object #2)



Plate 69 Sutkagen Dor, copper disc with raised rim (Object # 3)

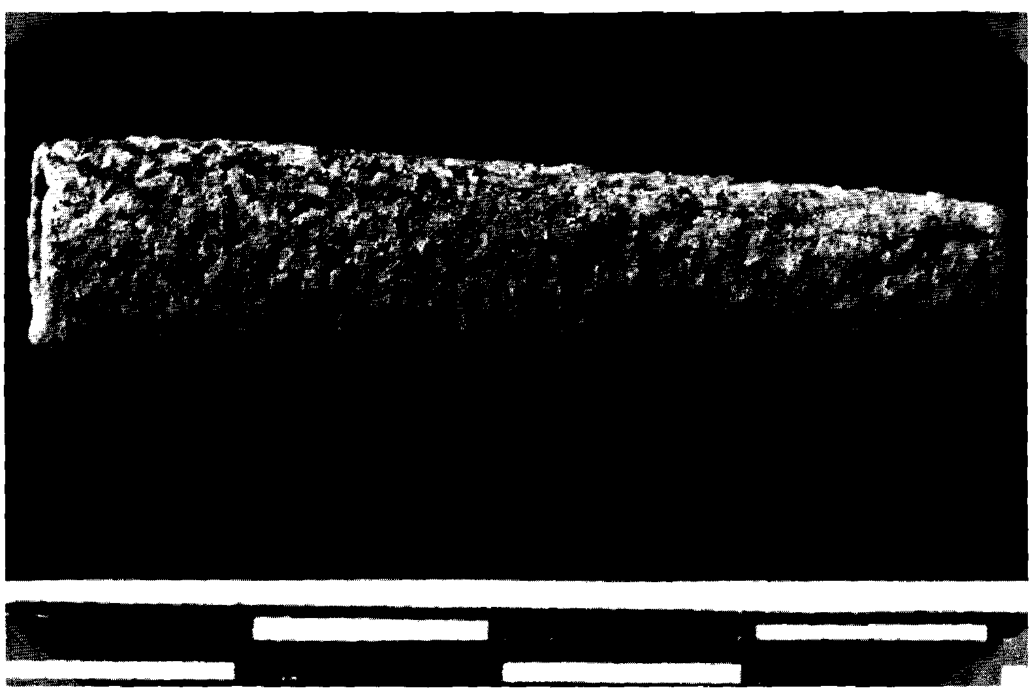


Plate 70 Sutkagen Dor, copper tube (Object #4)

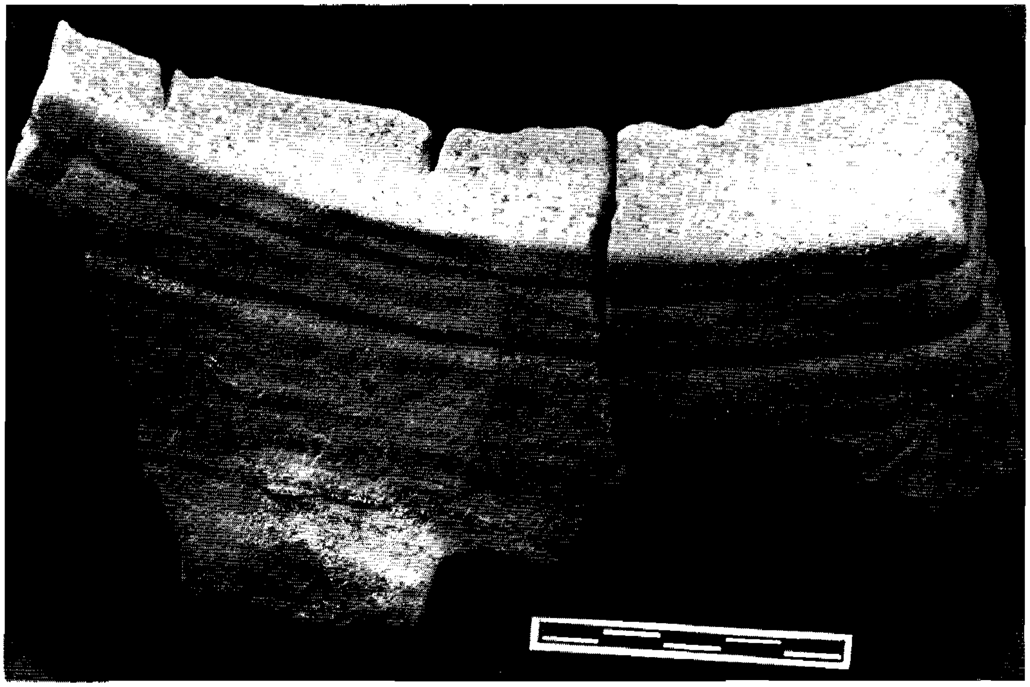


Plate 71 Sutkagen Dor, sandstone object, end fragment (Object #5)

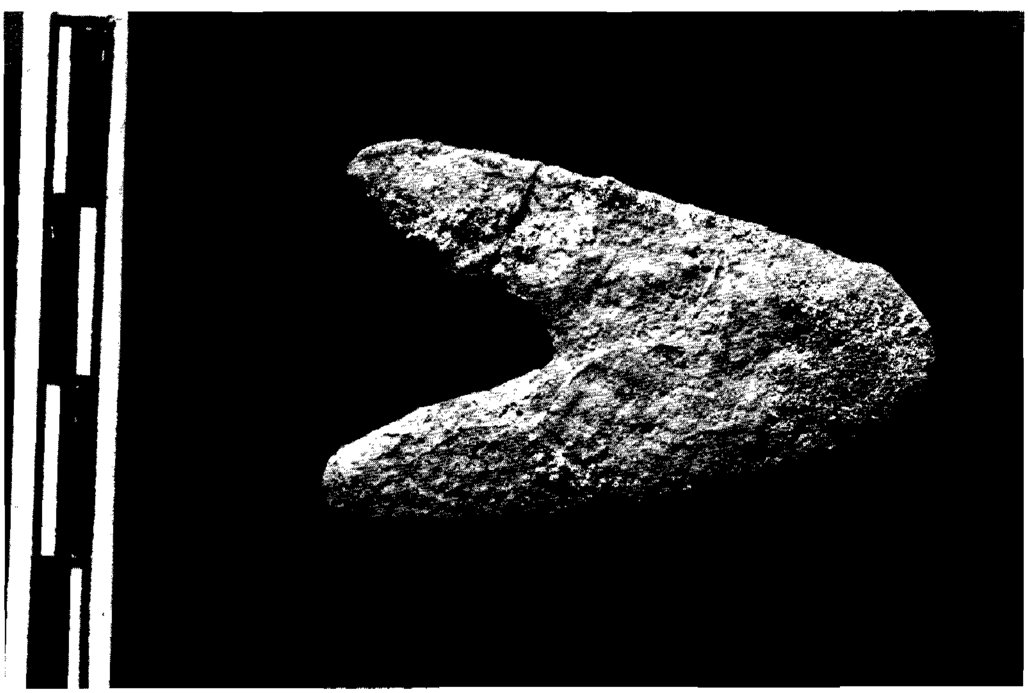


Plate 72 Sutkagen Dor, copper arrowhead (Object #6)

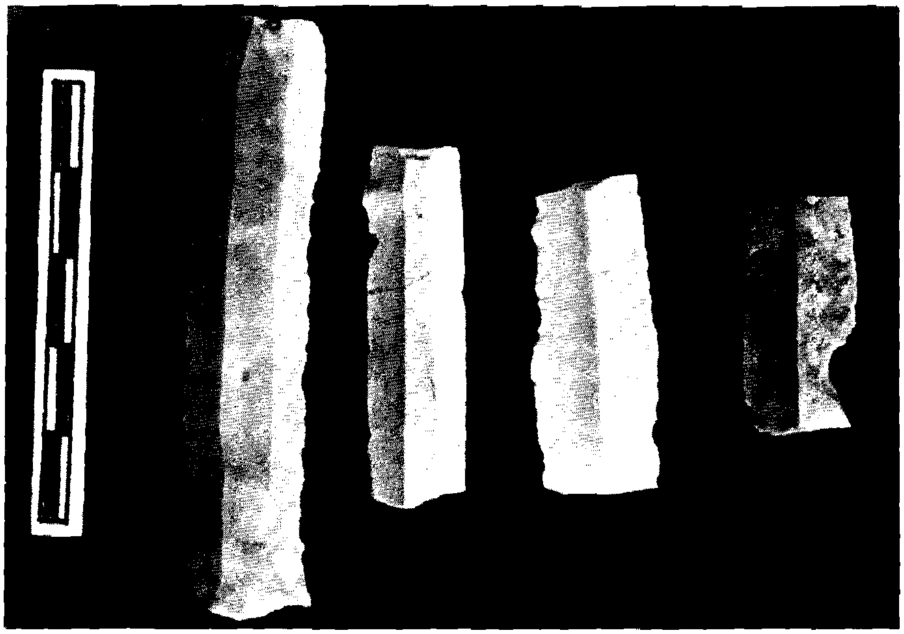


Plate 73 **Sutkagen Dor, chert blades (Object #7)**

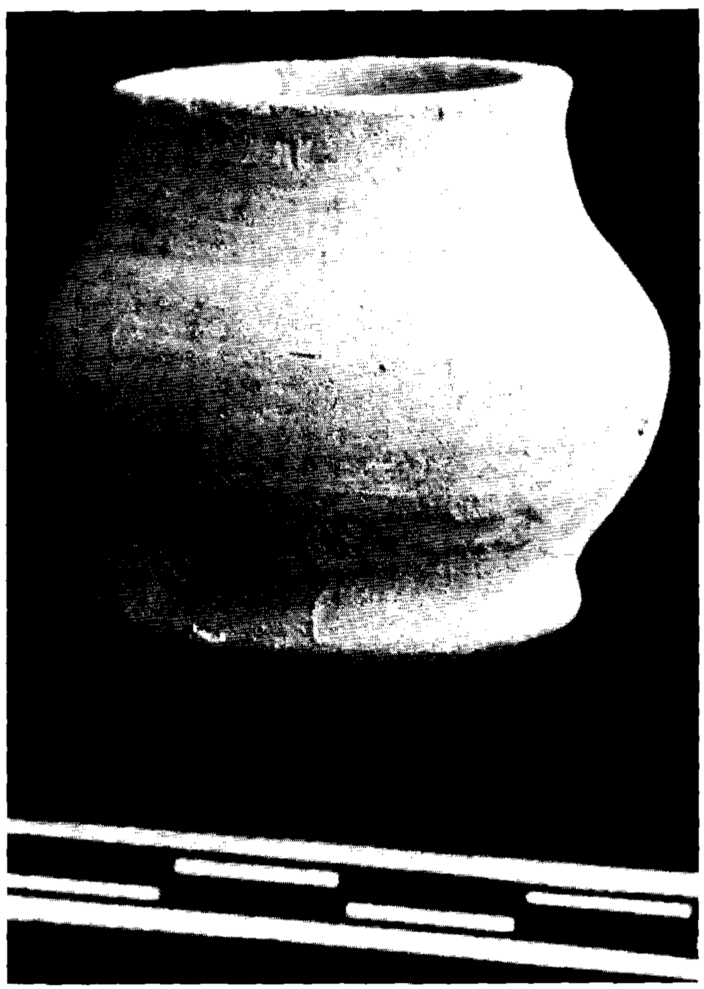


Plate 74

Sutkagen Dor,
tiny ceramic pot
(SD#24, Object #10)

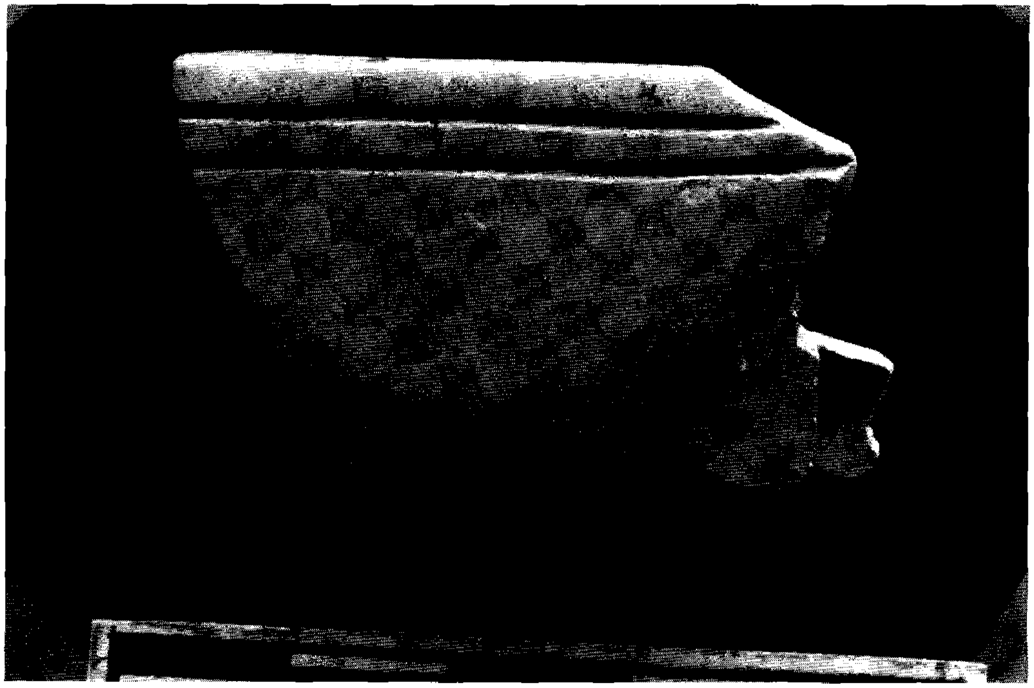


Plate 75 **Sutkagen Dor, fragment of carved shell object (Object #11)**

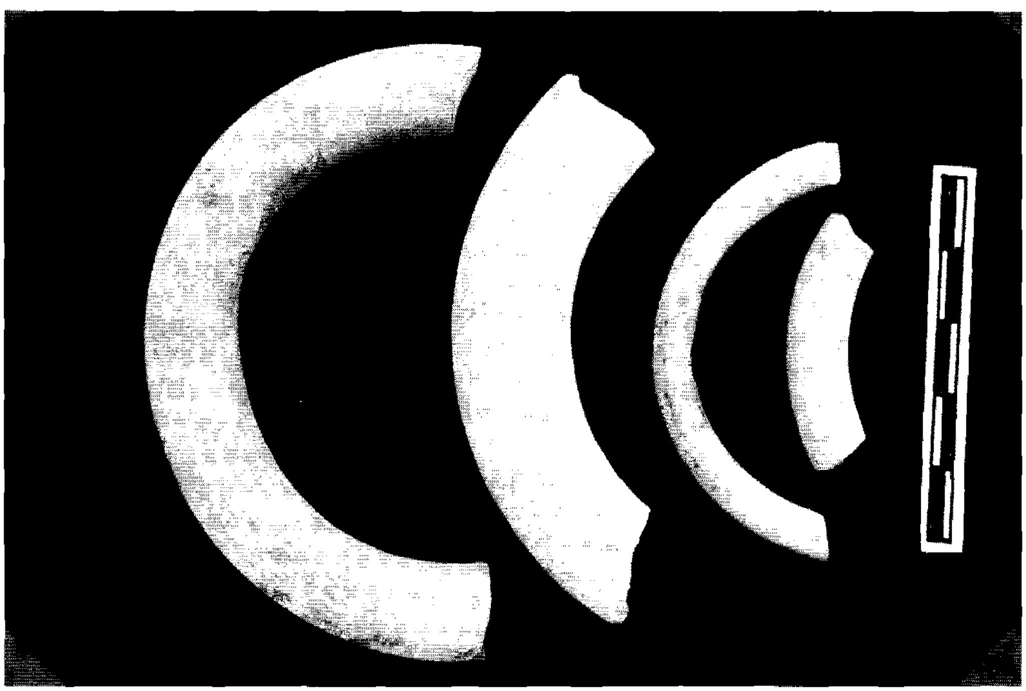


Plate 76 **Sutkagen Dor, sample of terra-cotta bangles**

PART III

POTTERY DESCRIPTIONS AND CLASSIFICATION

The Harappan pottery collected during the survey came from three discrete contexts: the test excavations at Sutkagen Dor, the surface surveys at Sutkagen Dor, and the surface survey of Sotka Koh. The excavations in Trenches A/A1 at Sutkagen Dor provided the only significant stratified sequence of ceramics. Unfortunately, with the exception of the small jar-pot (Registered Object #10, SD #24; figure 34.11; plate 74), we recovered only sherds rather than complete forms. As a result, the classification of the ceramics into well-defined typological categories was nearly impossible. Our experience, however, working with "Mature" Harappan pottery at Mohenjo Daro, Harappa, Balakot, and other sites has enabled us to assign the sherds into a set of relatively distinct groups of pottery forms (figures 32 and 33).

We elected to use the pottery typology devised for Mohenjo Daro (Dales and Kenoyer 1986) as the standard for classifying the Makran sherds. The large summary chart of vessel forms in that volume (figure 102: reproduced here as figure 32) has been used as the visual guide to the classification. Rather than attempt very specific identification of Mohenjo Daro vessel types, we divided the pottery into large groups of similar forms. These groups were based upon comparisons with Makran sherds, the Mohenjo Daro pottery chart, and our knowledge of Mature Harappan forms. They are indicated by groups A through Y and 1 through 3 (table 2). The distribution of vessel types according to their context and trench locations is compiled in tables 3-12. These charts enable one to determine the relative frequency of various vessel groups and to easily locate other examples of vessels of similar form.

It will be noticed immediately that not all the forms on the Mohenjo Daro chart are represented in the Makran collection and several forms found in Makran are not seen on the Mohenjo Daro chart. This is not unexpected given the limited extent of the test excavations at Sutkagen Dor and the cursory nature of our surface survey at Sotka Koh. Despite these sampling problems, it is surprising that no evidence was found for pointed base globlets (MD 24) or large, black-painted storage jars (MD 4). The lack of pointed base goblets, extraordinarily abundant during the latest phase of occupation at most Mature Harappan sites, suggests that both of the Makran sites were abandoned prior to the abandonment of major Indus sites such as Mohenjo Daro or Harappa. The lack of large, black-painted storage jars is also unexpected since recent discoveries in the Gulf area, especially Oman, have established that such vessels were used as trade containers (Cleuziou and Tosi 1988:41, figure 35). The absence of these trade vessels may indicate that they were only transported through the site on their way to or from the Indus Valley.

What is impressive, apart from the broad range of pottery types recorded in Makran, is the quality of the pottery. The care taken in collecting and preparing the paste, the skill displayed in the manufacturing techniques, and the quality of the surface decorations are equal to the best examples from the major sites in the Indus Valley. Sutkagen Dor and Sotka Koh were no mean border outposts to judge from the quality of the ceramics, objects, and architecture.

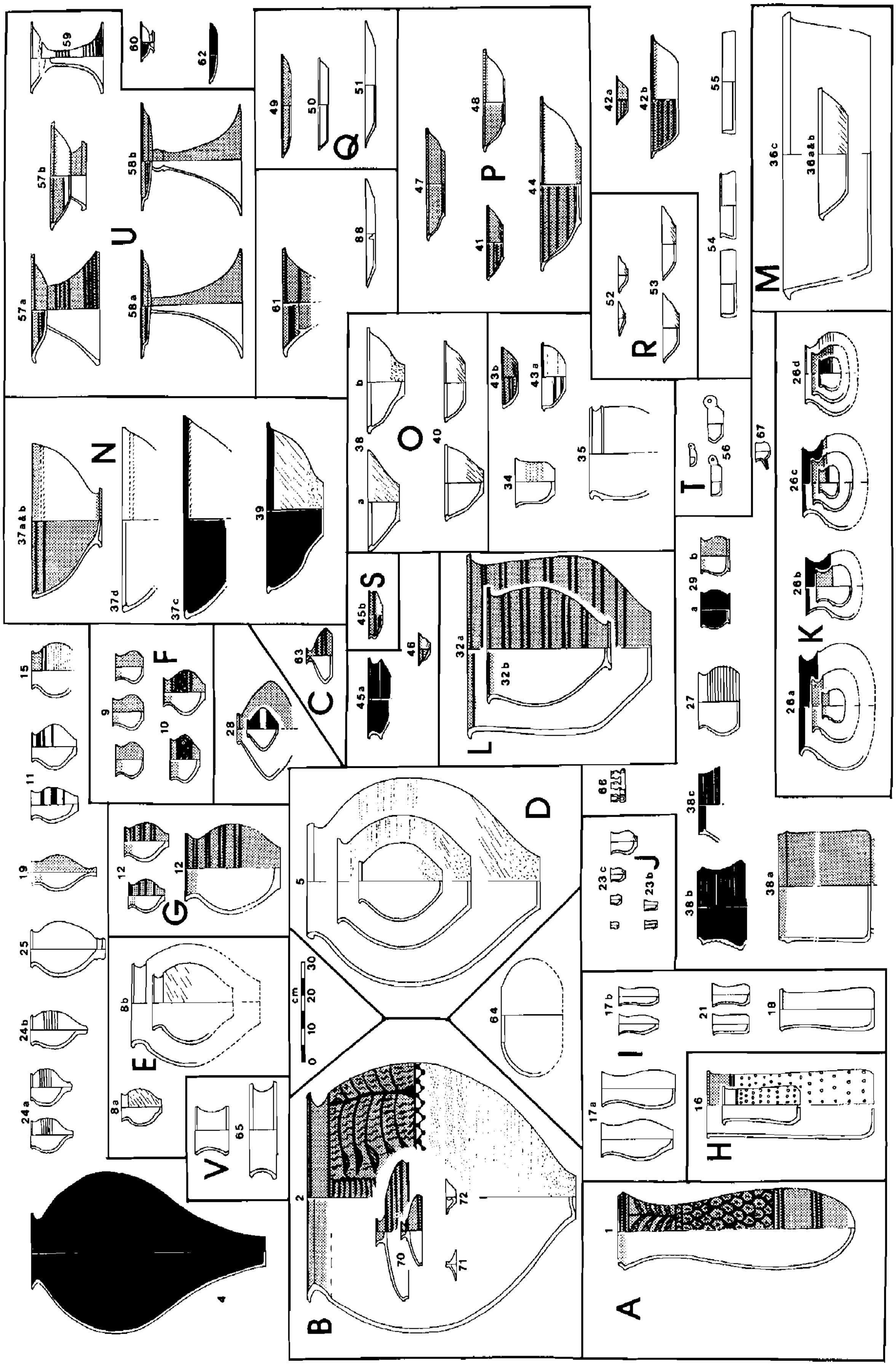


Figure 32 Mohenjo Daro pottery typology showing Makran pottery groups

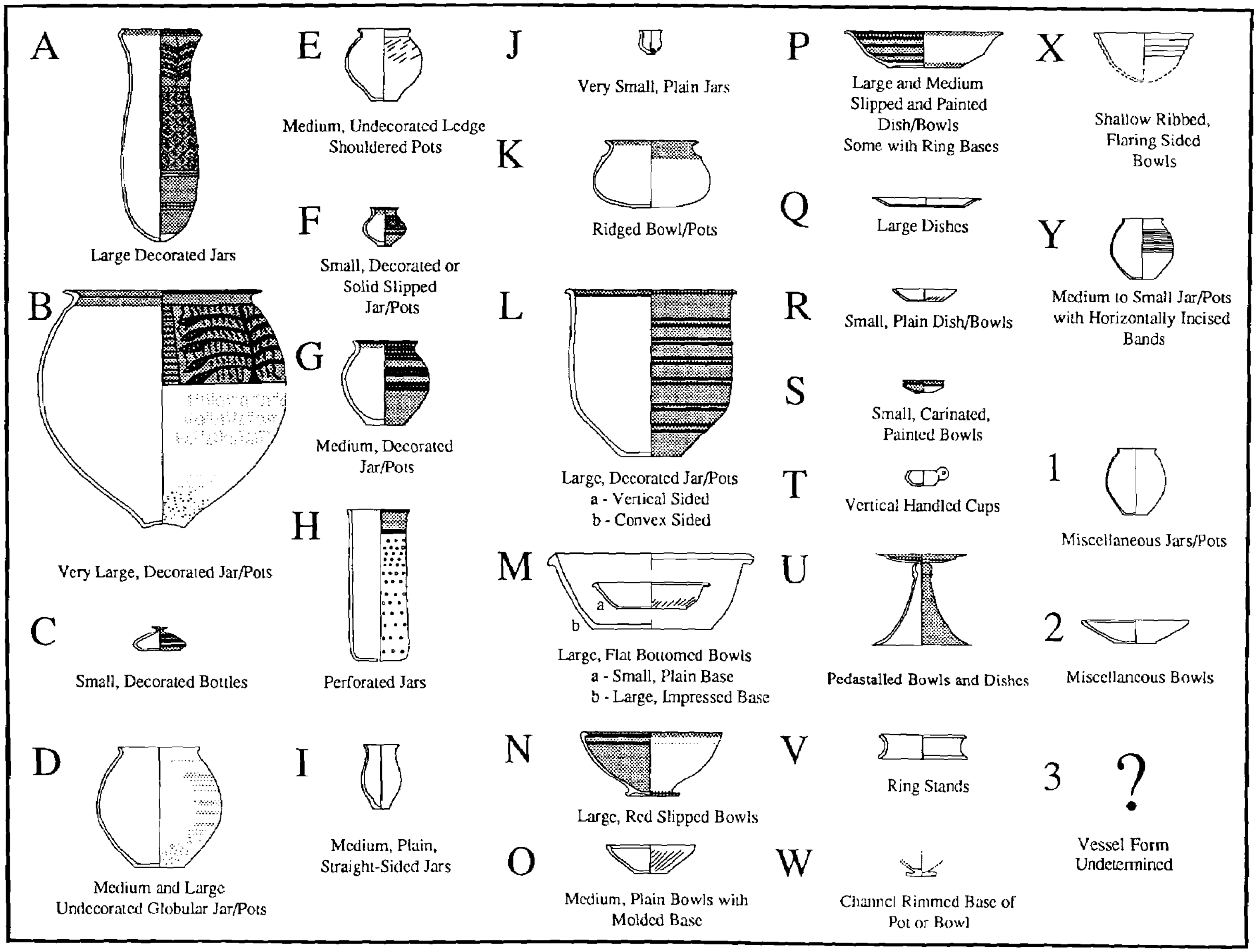


Figure 33 **Makran pottery groups and descriptions**

One final introductory note. The sherd collections show a much greater percentage of painted sherds from Sotka Koh than from Sutkagen Dor. This may be the result of real site specific preferences, or perhaps differential functions of the sites, or simply differential preservation. We did note a decided difference in the state of preservation of surface sherds from the two sites. A high percentage of the Sutkagen Dor surface sherds were virtually sunburned. The ware had turned a deep reddish brown, and sherds fell apart upon touch, separating into countless thin platelets and crumbling to dust. We did not notice this phenomenon at Sotka Koh where sherds, even those exposed to the full blast of the sun, remained in excellent condition. The only obvious variable is that Sutkagen Dor is located immediately next to a major river and the surrounding plain is frequently flooded. Sotka Koh is located farther away from a much smaller river. Perhaps this caused a difference in the chemical composition of the clay used at each site which would result in the fired ceramics reacting differently to the direct rays of the sun.

TABLE 2

MAKRAN POTTERY GROUPS

Makran Vessel Group	Mohenjo Daro Vessel Type	Description
A	MD 1	Large decorated jars or "Bombs."
B	MD 2	Very large decorated globular pots with concave-sided molded bases.
C	MD 63	Small decorated bottles.
D	MD 5	Medium and large globular jars and pots. Those at the larger end of the size range have creamy slip, horizontally scraped bands on the body and shoulder, and molded bases. Those at the smaller end of the size range are unslipped and undecorated and have slightly concave-sided bases that appear to have been formed initially in a mold or chuck and then scraped.
E	MD 8b	Ledge shouldered, globular jars and pots, unslipped and undecorated.
F	MD 9 and 10	Small globular jars and pots. Some (MD 9) have a solid cream or red slip. Some (MD 10) have solid red slip plus a horizontal band of black painted decorations.
G	MD 12 and 13	Small to medium globular jars with solid red slip and multiple horizontal black painted bands.
H	MD 16	Perforated vessels, mostly jar forms.

con't.

Table 2 continued

Makran Vessel Group	Mohenjo Daro Vessel Type	Description
I	MD 17a and b, 18, and 21	Small to medium jars, unslipped and undecorated. Profiles range from straight, vertical sided to slightly convex with the maximum body diameter at the vertical mid-point or lower body.
J	MD 23	Very small, plain jars and pots. Profiles range from straight vertical sided to slightly convex.
K	MD 26	S-form pots with rounded bases, often with a coarse slip containing grog. Shoulders are characterized by a single, or multiple sharp ridges. Necks and rims have solid black or brown slip.
L	MD 32a and b	Medium to large jars with solid red slip plus multiple horizontal black painted bands. The largest examples (La = MD 32a) tend to have a vertical sided profile and slightly concave-sided bases. The smaller examples (Lb = MD 32b) have either vertical sides or a convex profile and a ring base.
M	MD 36	Medium to large bowls with broad flat bases and straight flaring profiles. The smaller varieties (Ma = MD 36a and b) are unslipped and undecorated. The larger variety (Mb = MD 36c) have impressed intersecting circle designs on the interior of the base.
N	MD 37 and 39	A complex range of medium to large convex flaring-sided bowls. Sub-categories are defined by rim forms, presence and absence of slip and/or cord impressions, and base forms.
O	MD 38 and 40	Medium-sized bowls with widely flaring profiles, no slips or decorations, and with molded or scraped bases.
P	MD 41, 44, 47, and 48	Large to medium flaring-sided bowls with ring bases. Sub-categories are defined by rim forms and the presence or absence of red slip.

con't.

Table 2 continued

Makran Vessel Group	Mohenjo Daro Vessel Type	Description
P	MD 41, 44, 47, and48	Large to medium flaring-sided bowls with ring bases. Sub-categories are defined by rim forms and the presence or absence of red slip.
Q	MD 49, 50, and 51	Medium to large dishes with widely flaring profiles and broad flat bases. Sub-categories are defined by rim forms and the presence and absence of red slip.
R	MD 52 and 53	Small, plain, widely flaring bowls, usually with crudely string cut bases.
S	MD 45b	Small, carinated bowl with red slip and black painted decorations.
T	MD 56	Small, vertical handled bowls, undecorated.
U	MD 57 and 58	Pedestalled dishes and shallow bowls ("dish on stands"). Subcategories are defined by the relative height to diameter ratio of the pedestal bases; the slipped, painted, and/or impressed decorations in the interior of the dishes or bowls; and the presence or absence of a globular bulb at the juncture of the base and dish.
V	MD 65	Ring stands for jars and pots.
W	Not represented at Mohenjo Daro	Channel rimmed bases for pots or bowls.
X	See Mohenjo Daro pottery volume figure 57.4.	
Y	See Mohenjo Daro pottery volume figure 45.5.	Small to medium globular jars/pots with multiple, narrow, horizontally incised bands.
1	Miscellaneous jars and pots	
2	Miscellaneous bowls	
3	Vessel form undetermined	

SUTKAGEN DOR POTTERY

During our work at Sutkagen Dor, 174 sherds were selected to be drawn and described (figures 34-58; plates 77-88). The sherds which were collected were those which gave meaningful information about decoration, form, and vessel type. The collection was divided, equally, between the Department of Archaeology and the University Museum: single examples or otherwise unique sherds went to the department.

The most significant collection of sherds from Sutkagen Dor is that obtained from stratified contexts in Trench A-A/1 (figures 34-49; tables 3-7). Relative to the later phases, those vessel forms in the lowest level of Trench A-A/1 that had reconstructible shapes (Phase 2) appear to be predominantly jars and pots. In the upper levels of the trench, a slightly wider range of vessel forms are present, especially bowls and dishes.

In Trench D, sherds were collected from two large stratigraphic levels, Levels 1-2, b and Level 6 (figures 50-52; table 8). The sherds from the lowest level, 6, were heavily stained dark brown and green presumably from association with sewage or wastewater. Although very few sherds were collected from this trench, the vessel forms are limited to bowls and dishes—forms one would expect to be associated with household waste.

A fairly large number of sherds was collected from the surface of Sutkagen Dor (figures 53-58; table 9). Although many vessel forms are represented from the surface collection, decorated body sherds make up the majority of the collection.

FIGURE 34

SUTKAGEN DOR: CERAMICS FROM TRENCHES A AND A1

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	82		A1/3	5		Creamy exterior surface.	D - Medium to Large Globular, Undecorated Jar/Pot	MD 5
2	196	61-33-5, l	A1/4	4		No traces of slip.	1 - Miscellaneous Jar/Pot	
3	35	61-33-7, m	A1/5	4		Creamy exterior surface.	D - Medium to Large Globular, Undecorated Jar/Pot	MD 5
4	81	61-33-1, d	A1/2	6		Nicely smoothed exterior, no traces of slip.	1 - Miscellaneous Jar/Pot	
5	7	61-33-11, h	A1/9	2		No trace of slip.	I - Medium, Plain, Straight-sided Jar	MD 17, 18, 21
6	251	61-33-17, d	A1/5	4		Creamy slip exterior and over rim.	1 - Miscellaneous Jar/Pot	
7	25		A1/5	4		Incised horizontal bands, no trace of slip.	Y - Medium to Small Jar-Pot with Horizontally Incised Bands	See MD figure 45.5
8	32		A1/4	4		Creamy exterior surface.	1 - Miscellaneous Jar/Pot	

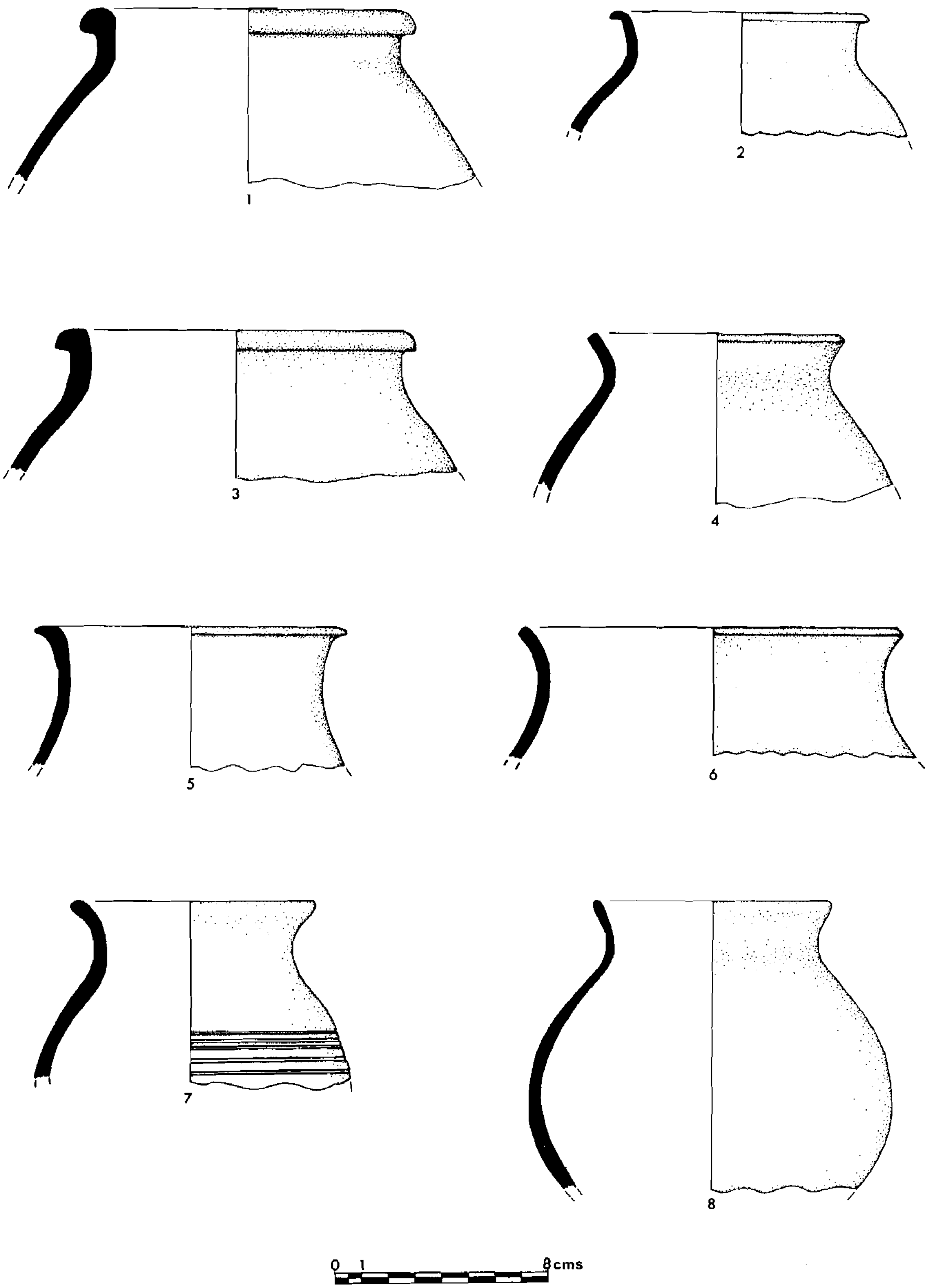

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FIGURE 35

SUTKAGEN DOR: CERAMICS FROM TRENCHES A AND A1

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	83		A1/3	5		Red slip on exterior and over rim to neck.	V - Ring Stand	MD 65
2	29		A1/4	4		Red slip exterior and over rim.	V - Ring Stand	MD 65
3	84	61-33-2, k	A1/3	5		Brownish red slip on exterior and over rim.	G - Medium, Decorated Jar/Pot	MD 12
4	10		A1/9	2		Red slip on exterior to rim.	G - Medium, Decorated Jar/Pot	MD 12
5	8	61-33-11, e	A1/9	2		Red slip interior and exterior.	V - Ring Stand	MD 65
6	197	61-33-6, c	A1/4-5	4		Appears "overfired." Thick creamy slip on exterior and on rim top turning toward green. Core paste dark terra-cotta to grey.	D - Medium to Large Globular, Undecorated Jar/Pot	MD 5
7	70		A1/5	4		Red slip on exterior and over rim. Black painted band on ledge rim. Traces of black painted designs on body below ledge.	A - Large, Decorated Jar	MD 1
8	28		A1/5	4		Creamy surface, diameter uncertain.	La - Very Large, Vertical-sided, Decorated Jar/Pot	MD 32
9	11		A1/9	2			X? - Large to Medium Ribbed Jar/Pot	See MD figure 57.4

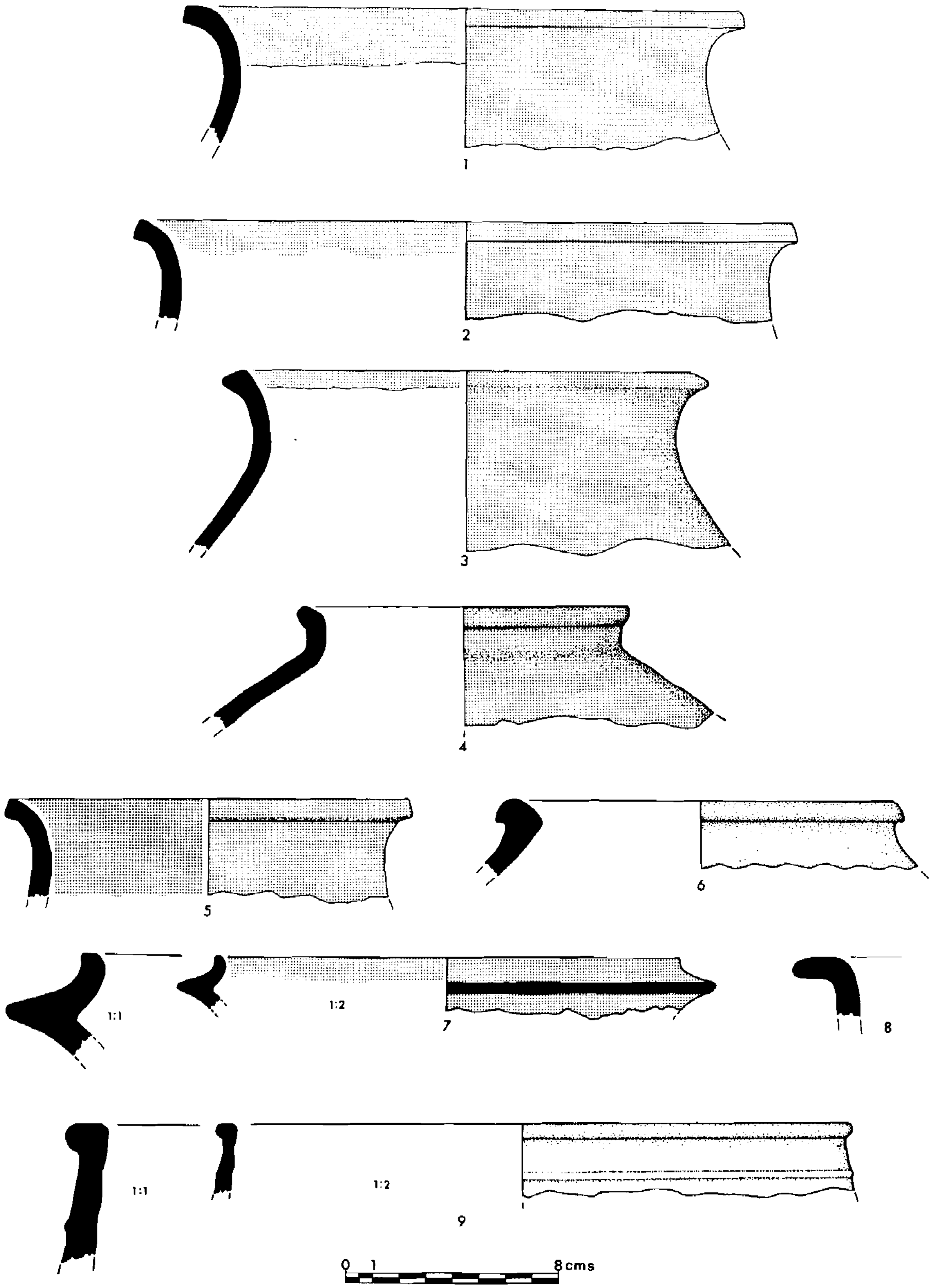

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FIGURE 36

SUTKAGEN DOR: CERAMICS FROM TRENCHES A AND A1

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	253	61-33-17, g	A/5	4		Base string cut and then ground flat and smooth. Exterior coated with slip (red?) down to bottom edge of base. Sherd apparently subjected to secondary (acci-dental?) exposure to high heat.	F - Small, Decorated Jar/Pot	MD 9, 10
2	86		A/3	5		No trace of slip.	F - Small, Decorated Jar/Pot	MD 9, 10
3	22		A1/8	2		No trace of slip.	F - Small, Decorated Jar/Pot	MD 9, 10
4	37		A1/4-5	4		Creamy exterior surface.	1 - Miscellaneous Jar/Pot	
5	66	61-33-1, e	A1/2	6		No trace of slip. Base diameter and angle of flare vary slightly for different examples.	1 - Miscellaneous Jar/Pot	
6	63	61-33-6, a	A1/4-5	4		This example has brownish red slip on exterior. Other examples have no trace of slip.	1 - Miscellaneous Jar/Pot	
7	60		A1/4A	4		No trace of slip.	1 - Miscellaneous Jar/Pot	
8	67		A1/2	6		No trace of slip.	1 - Miscellaneous Jar/Pot	
9	164	61-33-2, e	A1/3	5		Base bottom string cut and then smoothed flat. Lower vessel body crudely scraped horizontally.	1 - Miscellaneous Jar/Pot	
10	179	61-33-4, a	A1/4	4		String cut disc base for a medium jar/pot. No trace of slip.	1 - Miscellaneous Jar/Pot	
11	24		A1/8	2	74	String cut base. No trace of slip.	J - Very Small Plain Jar	MD 23

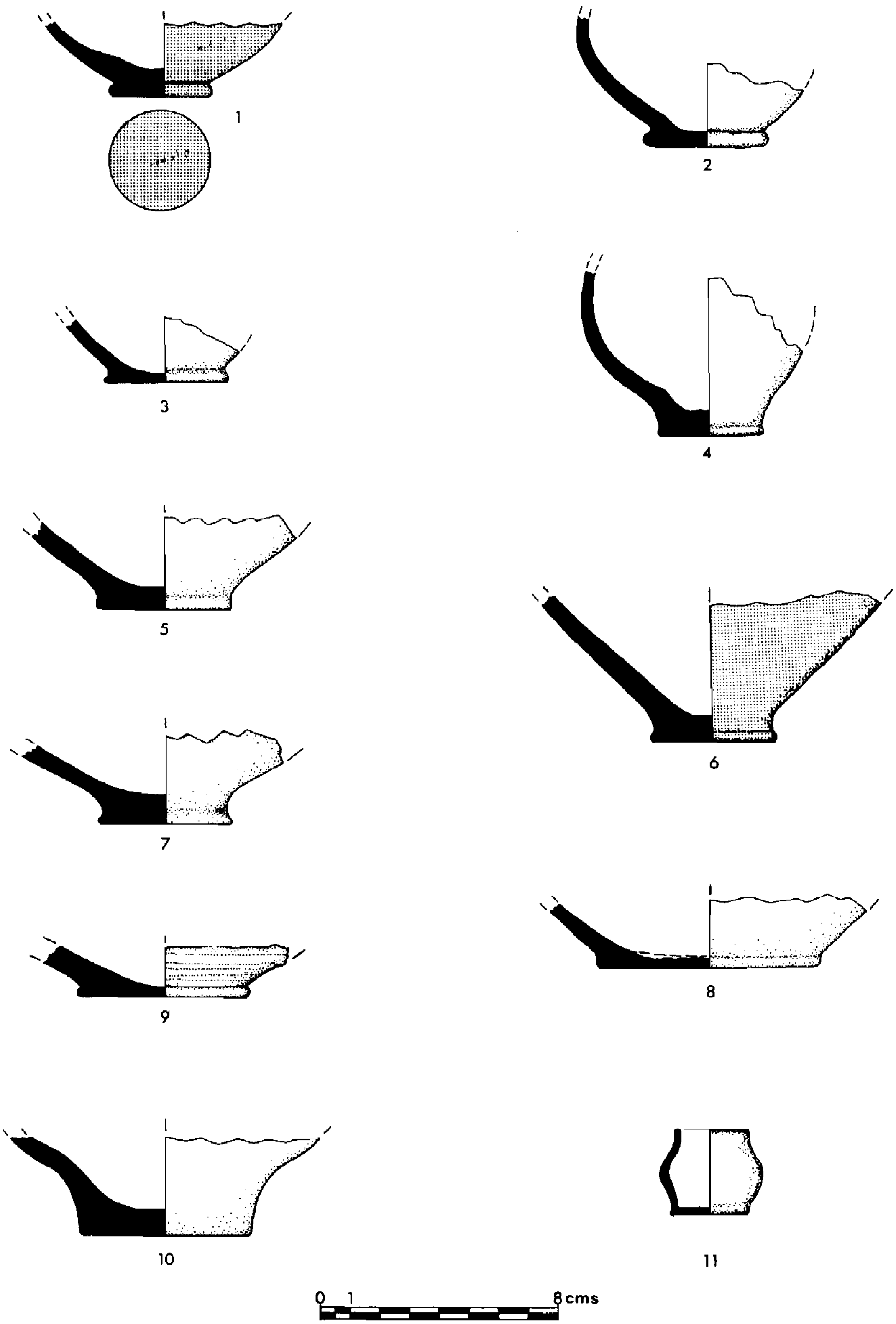

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FIGURE 37

SUTKAGEN DOR: CERAMICS FROM TRENCHES A AND A1

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	78	61-33-1, g	A1/2	6		No trace of slip.	D - Medium to Large Globular, Undecorated Jar/Pot	MD 5
2	167	61-33-2, 1	A1/3	5		Surfaces weathered. No trace of slip.	D - Medium to Large Globular, Undecorated Jar/Pot	MD 5
3	5		A1/4A	4		Polished red slip exterior and over rim.	La - Very Large, Vertical-sided, Decorated Jar/Pot, Small Variety	MD 32
4	6		A1/8	2		No trace of slip on this example.	La - Very Large, Vertical-sided, Decorated Jar/Pot	MD 32
5	79		A/2	6		Red slip on exterior and over rim. Max. diameter > 56 cm.	La - Very Large, Vertical-sided, Decorated Jar/Pot	MD 32
6	1	61-33-12, b	A1/10	2		Traces of red slip on inside of rim and neck.	D - Medium to Large Globular, Undecorated Jar/Pot	MD 5
7	85		A1/3A	5			D - Medium to Large Globular, Undecorated Jar/Pot	MD 5
8	33	61-33-7, g	A1/5	4		Creamy slip.	D - Medium to Large Globular, Undecorated Jar/Pot	MD 5

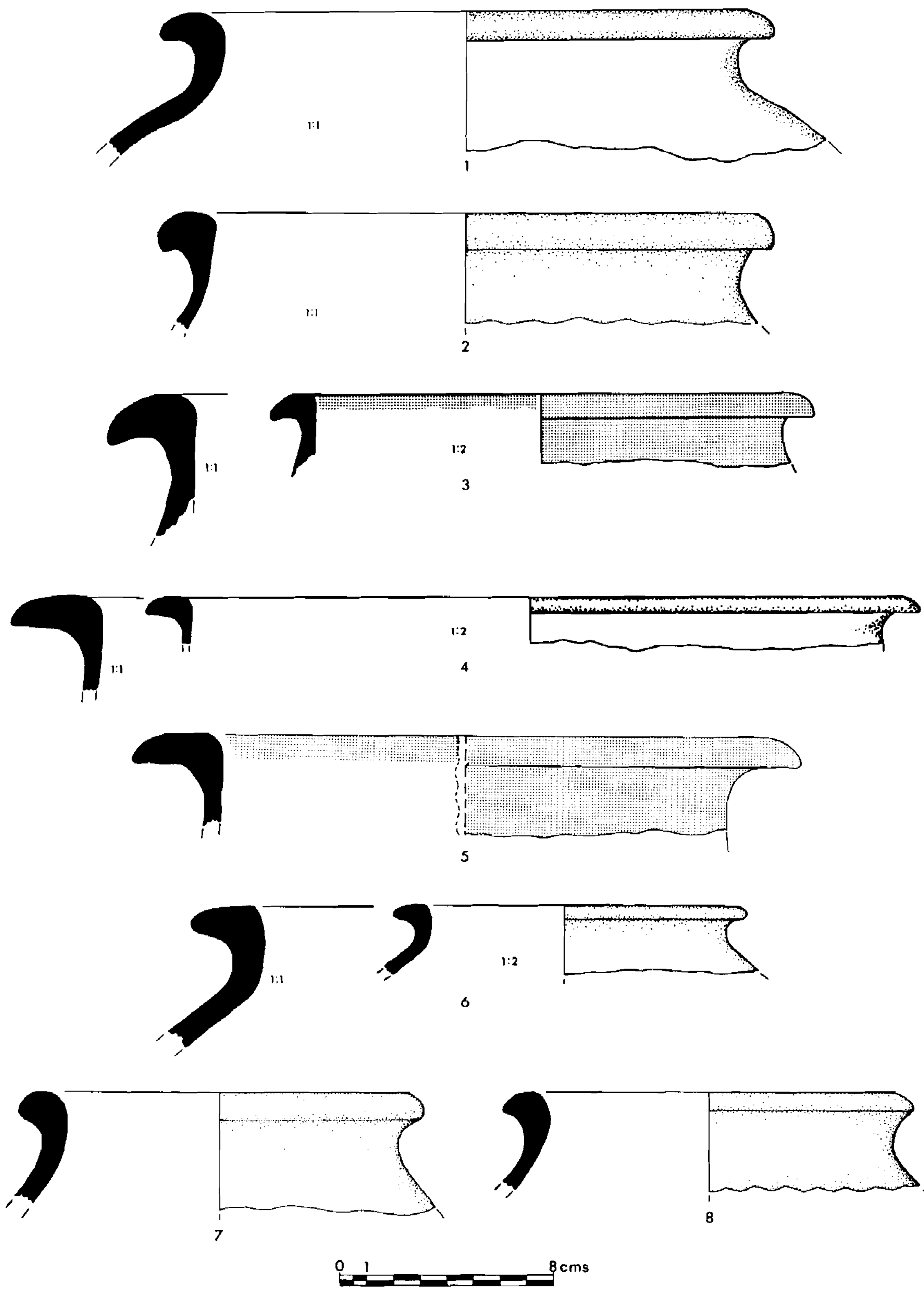

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FIGURE 38

SUTKAGEN DOR: CERAMICS FROM TRENCHES A AND A1

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	76		A1/3	5		No trace of slip.	D - Medium to Large Globular, Undecorated Jar/Pot	MD 5
2	4	61-33-10, d	A1/8	2		No trace of slip.	D - Medium to Large Globular, Undecorated Jar/Pot	MD 5
3	34	61-33-7, h	A1/5	4		Cream clip exterior and over rim.	E - Medium, Undecorated Ledge-Shouldered Pot	MD 8
4	27		A1/4A	4		Brownish red slip exterior and over rim.	La - Very Large, Vertical-sided, Decorated Jar/Pot	MD 32
5	77	61-33-1, a	A1/2	6		No red slip, creamy surface.	La - Very Large, Vertical-sided, Decorated Jar/Pot	MD 32
6	2		A1/10	2		Red slip on exterior and over rim.	La - Very Large, Vertical-sided, Decorated Jar/Pot	MD 32
7	3		A1/9	2		No slip, creamy surface.	La - Very Large, Vertical-sided, Decorated Jar/Pot	MD 32

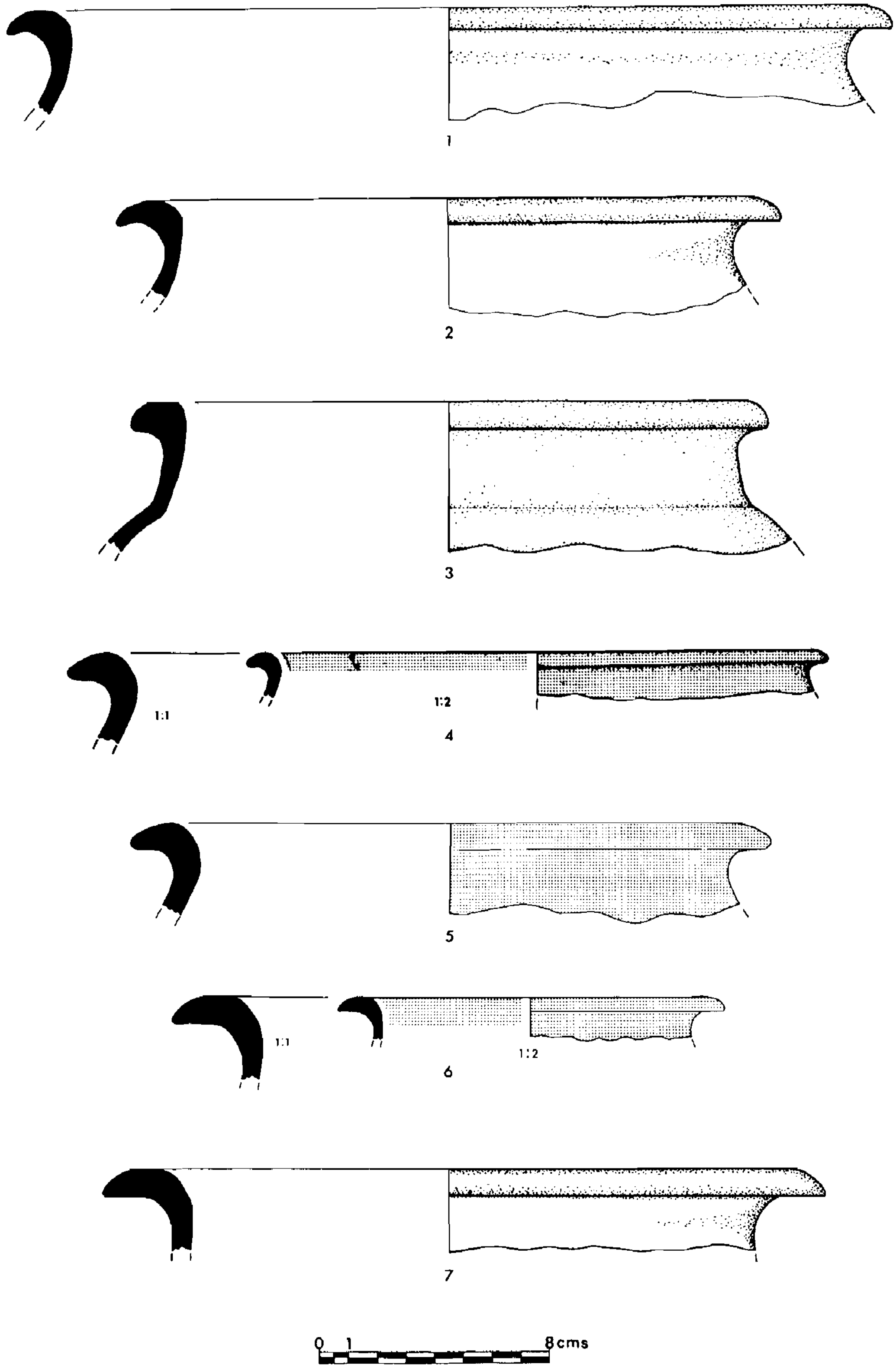
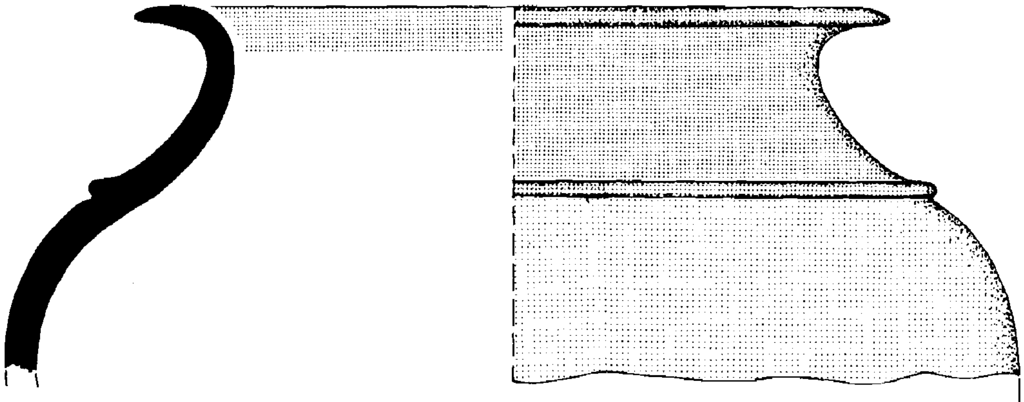

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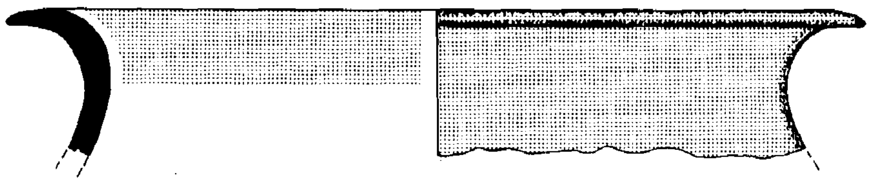
FIGURE 39

SUTKAGEN DOR: CERAMICS FROM TRENCHES A AND A1

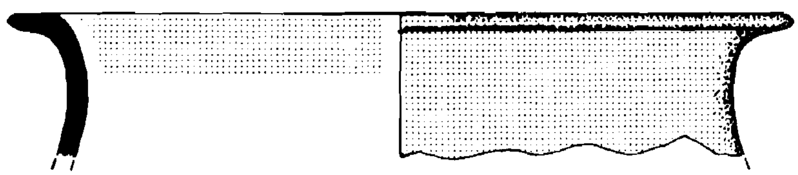
Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Description	Mohenjo Daro Vessel Number
1	80	61-33-2, c	A1/3	5	82	Fine sandy paste; brownish red slip from ledge up over rim; cream slip on body below ledge; S-form pot.	K - Ridged Bowl/Pot	MD 26
2	90		A1/8	2		Rim of S-form pot, brownish red slip exterior and over rim.	K - Ridged Bowl/Pot	MD 26
3	26		A1/5	4		Rim of S-form pot (?), cream slip exterior and over rim.	K - Ridged Bowl/Pot	MD 26
4	39		A1/4	4		S-form pot, red slip from shoulder ledge up and over rim.	K - Ridged Bowl/Pot	MD 26



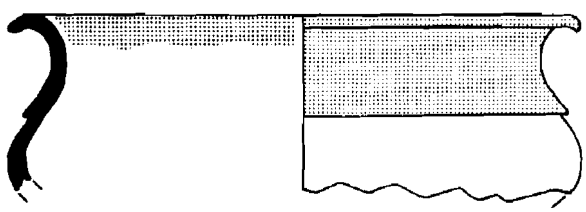
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FIGURE 40

SUTKAGEN DOR: CERAMICS FROM TRENCHES A AND A1

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	114		A1/3	5	77	Max. rim diameter—48 cm. Incised before firing.	B - Very Large Decorated Jar/Pot	MD 2
2	19		A1/10	2		Base of very large jar/pot. Considerable mica present in paste as in Level 11 (Phase 1) examples. Formed in a mold.	B - Very Large Decorated Jar/Pot	MD 2
3	18		A1/8	2		Base of very large jar-pot, formed in mold.	B - Very Large Decorated Jar/Pot	MD 2

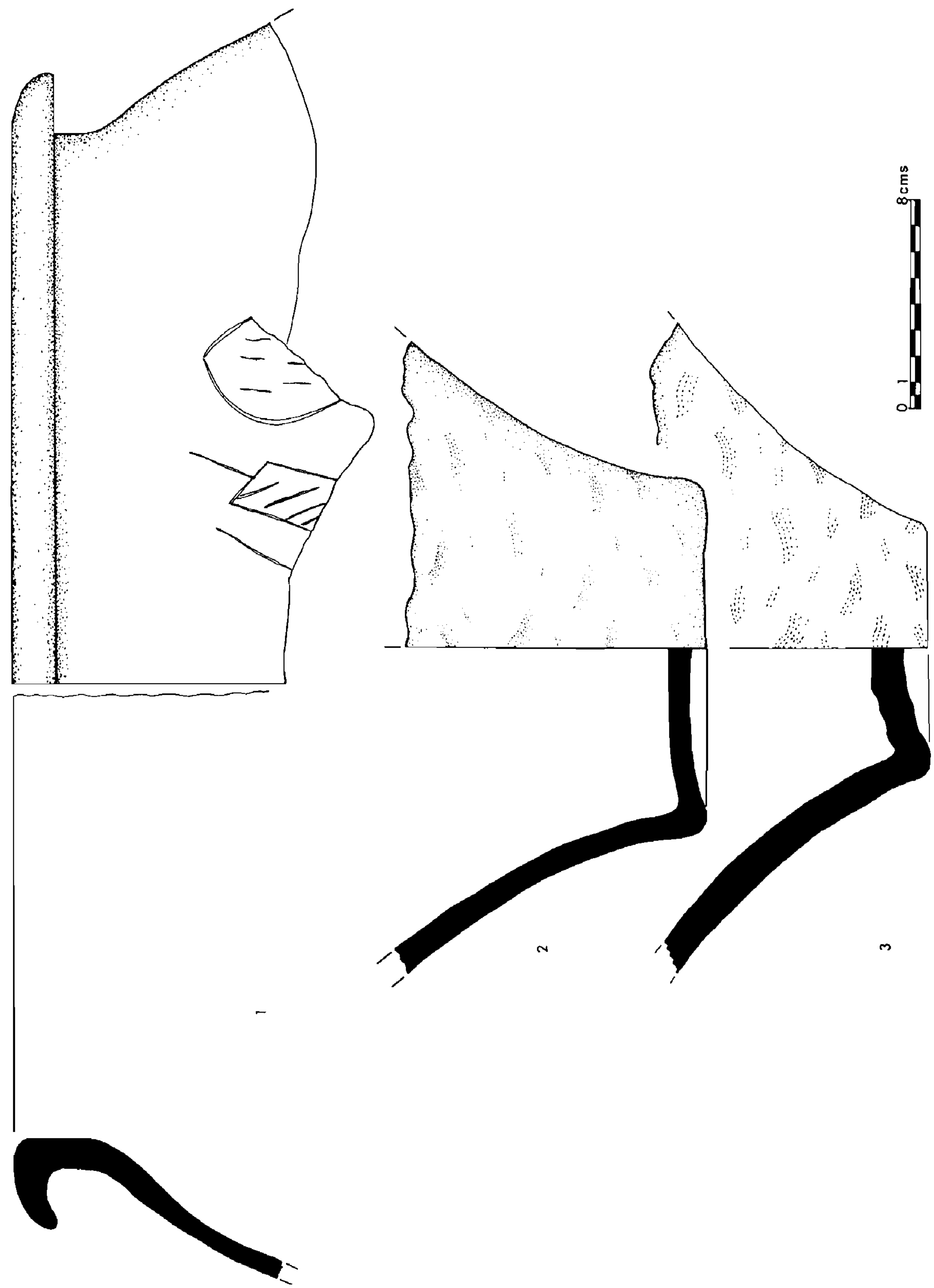

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FIGURE 41

SUTKAGEN DOR: CERAMICS FROM TRENCHES A AND A1

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	23		A1/9	2		Slightly grey from firing.	H - Perforated Jars	MD 16
2	57		A1/5	4			H - Perforated Jars	MD 16
3	97	61-33-2, m	A1/3	5		Base missing, half of a drilled hole suggests vessel may have been repaired rather than manufactured as a perforated bowl.	2 - Miscellaneous Bowl	
4, a	93	61-33-2, j	A1/3	5		Tiny mica flakes on exterior.	R - Small, Plain Dish/Bowl	MD 52, 53
4, b		61-33-2, p	A1/3	5			R - Small, Plain Dish/Bowl	MD 52, 53
4, c			A1/3	5			R - Small, Plain Dish/Bowl	MD 52, 53
5	95	61-33-1, i	A1/2	6		No trace of slip.	R - Small, Plain Dish/Bowl	MD 52, 53
6	46	61-33-16, b	A1/5	4		Creamy surface.	R - Small, Plain Dish/Bowl	MD 52, 53

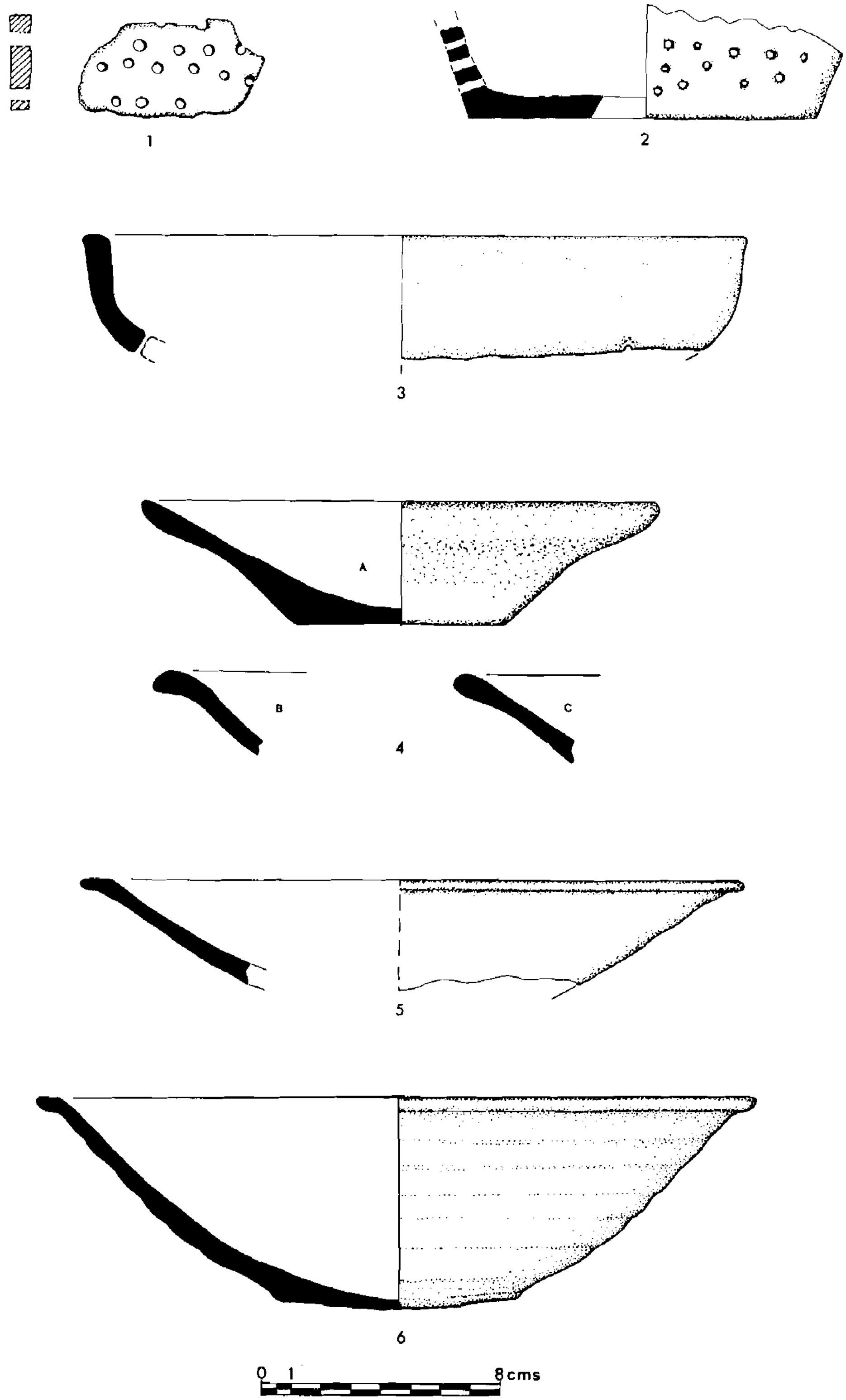

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FIGURE 42

SUTKAGEN DOR: CERAMICS FROM TRENCHES A AND A1

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	188	61-33-5, b	A1/4A	4		Lowest 3.0 cm. of base surface has fine horizontal, parallel turning grooves. Above these, the exterior surface is characteristic of a molded base. The original molded base appears to have been refined by rotary scraping.	D - Medium to Large Globular, Undecorated Jar/Pot	MD 5
2	108	61-33-3, c	A1/3A	5		Underside of base is rough scraped to make it flat. Lower 1.5 cm. of exterior has wheel turned grooves. Above this is molded surface.	D - Medium to Large Globular, Undecorated Jar/Pot	MD 5
3	168	61-33-2, o	A1/3	4		Deep groove made intentionally about 1.5 cm. from bottom of base.	D - Medium to Large Globular, Undecorated Jar/Pot	MD 5
4	109		A1/3	4		Exterior very rough. Crude, smoke stains and flame marks on underside.	K - Ridged, Bowl/Pots	MD 26
5	58	61-33-7, f	A1/5	4		No trace of slip.	W - Channel-Rimmed Base Pot/Bowl	
6	62		A1/5	4		Red slip on interior. Probably large bowl.	P - Medium to Large Slipped and Painted Dish/Bowl	MD 41, 44, 47, 48
7	104	61-33-1, k	A1/2	4		Ring base. No trace of slip.	P - Medium to Large Slipped and Painted Dish/Bowl with Ring Base.	
8	65	61-33-5, c	A1/4A	4		Brownish red slip on interior and on exterior to bottom of base. Ring diameter only approximate, maximum 24.0 cm.	P - Medium to Large Slipped and Painted Dish/Bowl with Ring Base.	MD 41, 44, 47, 48
9	61	61-33-7, a	A1/5	4		Red slip possibly on interior. Probably large bowl.	P - Medium to Large Slipped and Painted Dish/Bowl	MD 41, 44, 47, 48

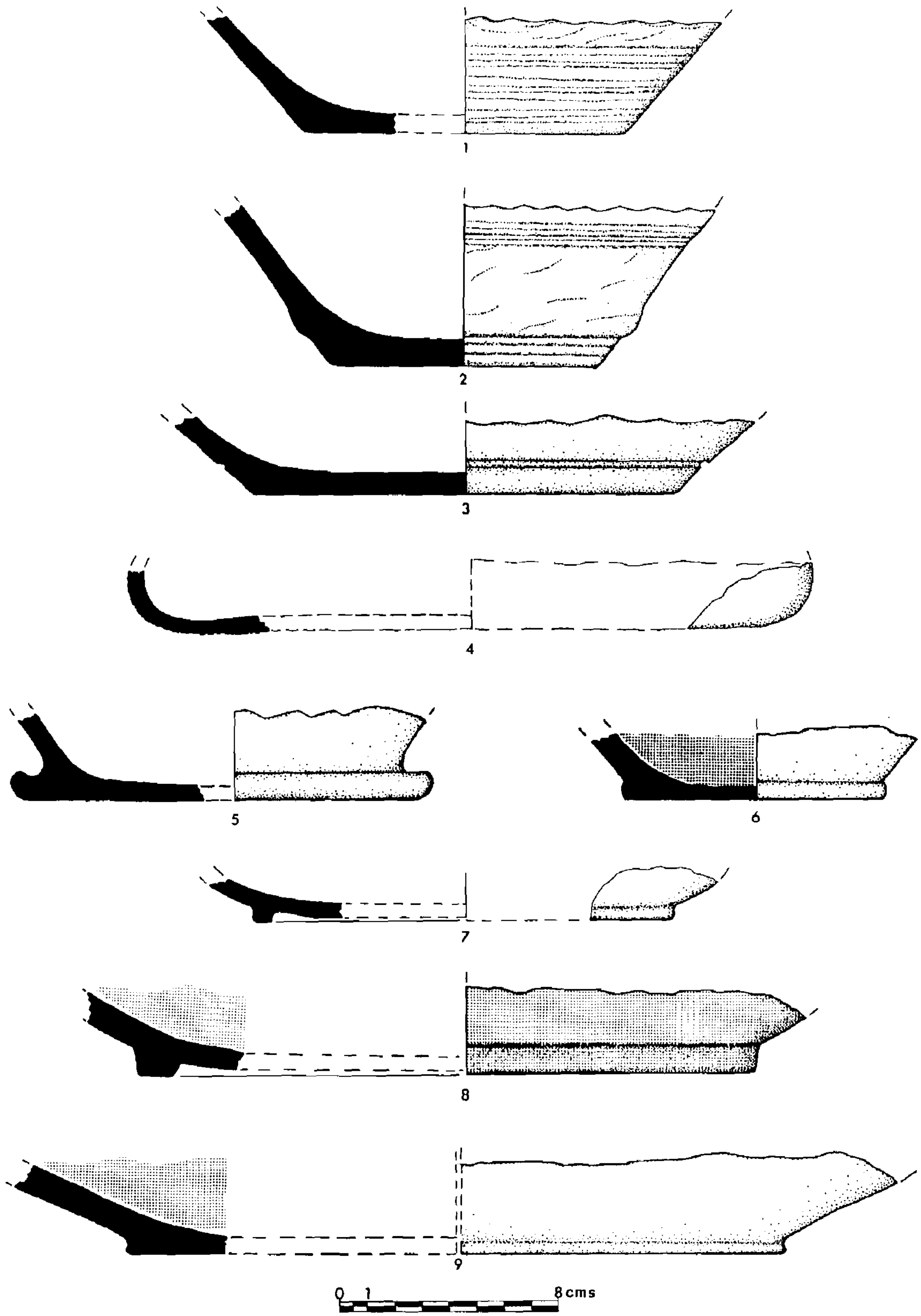

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FIGURE 43

SUTKAGEN DOR: CERAMICS FROM TRENCHES A AND A1

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	45	61-33-4, b	A1/4	4		Rim and body profile for vertical handled cups.	T - Vertical Handled Cup	MD 56
2	43	61-33-17, l	A/5	4		Crude string cut base. Vertical handled cup. Sign incised on exterior before firing.	T - Vertical Handled Cup	MD 56
3	115		A/3	5	88	Handle for vertical handled cup. Hole punched through while clay was soft.	T - Vertical Handled Cup	MD 56
4	92	61-33-1, m	A1/2	6		Rim and body of vertical handled cup.	T - Vertical Handled Cup	MD 56
5	228	61-33-14, b	A/3	5		Rim diameter approximately 14.0 cm but only 10% preserved. Thick cream slip on exterior and rim.	1 - Miscellaneous Jar/Pot Internally Slanted Rim	See MD figure 9.1-4
6	53		A/4	4		No trace of slip.	2 - Miscellaneous Bowl	
7	56		A/4	4		No trace of slip. Diameter unknown.	2 - Miscellaneous Bowl	
8	96		A1/3A	5		Brownish-red slip interior and exterior. Diameter uncertain but at least 20.0 cm.	2 - Miscellaneous Bowl	See MD figure 82.1
9	47	61-33-4, h	A1/4	4		No trace of slip. Diameter unknown.	3 - Vessel Form Unknown	
10	74	61-33-1, l	A1/2	6		Coarse ware, crudely hand formed.	1 - Miscellaneous Jar/Pot	

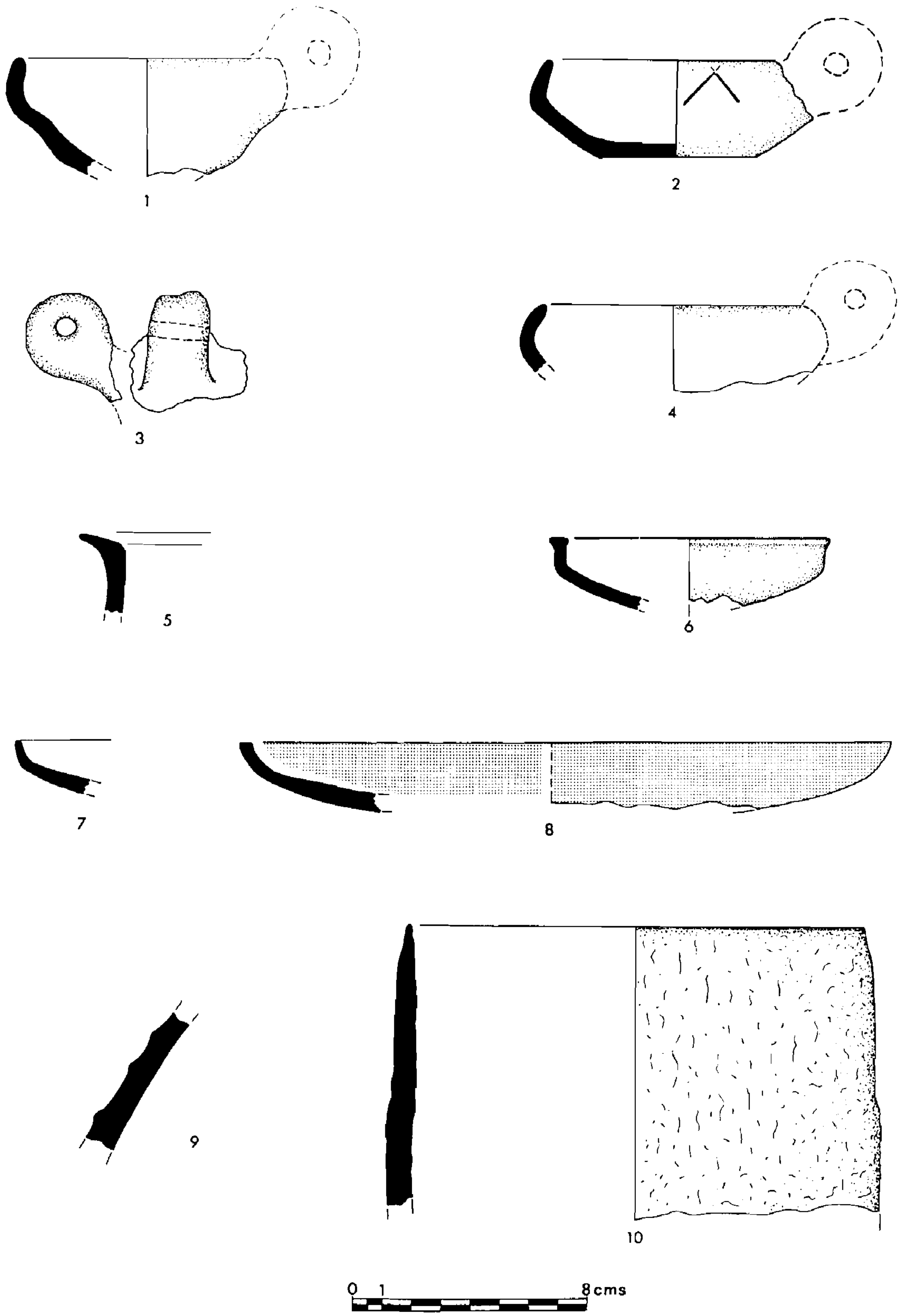

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0 1 8 cms

FIGURE 44

SUTKAGEN DOR: CERAMICS FROM TRENCHES A AND A1

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	51		A1/4A	4		Brownish red slip interior and exterior. Maximum diameter approximately 30.0 cm.	Q - Large Dish	MD 49-51
2	55	61-33-7, s	A1/5	4		Red slip interior and exterior. Maximum diameter approximately 30.0 cm.	Q - Large Dish	MD 49-51
3	38		A1/5	4		Cream slip. Maximum diameter approximately 38.0 cm.	O - Medium Plain Bowl with Molded Base	MD 38, 40
4	16		A1/8	2		Cream slip. Maximum diameter approximately 50.0 cm.	O - Medium Plain Bowl with Molded Base	MD 38, 40
5	48		A1/4A	4	83	Red slip, smoothed, two bands of cord impressions. Maximum diameter approximately 58.0 cm.	N - Large Slipped Bowl	MD 37, 39

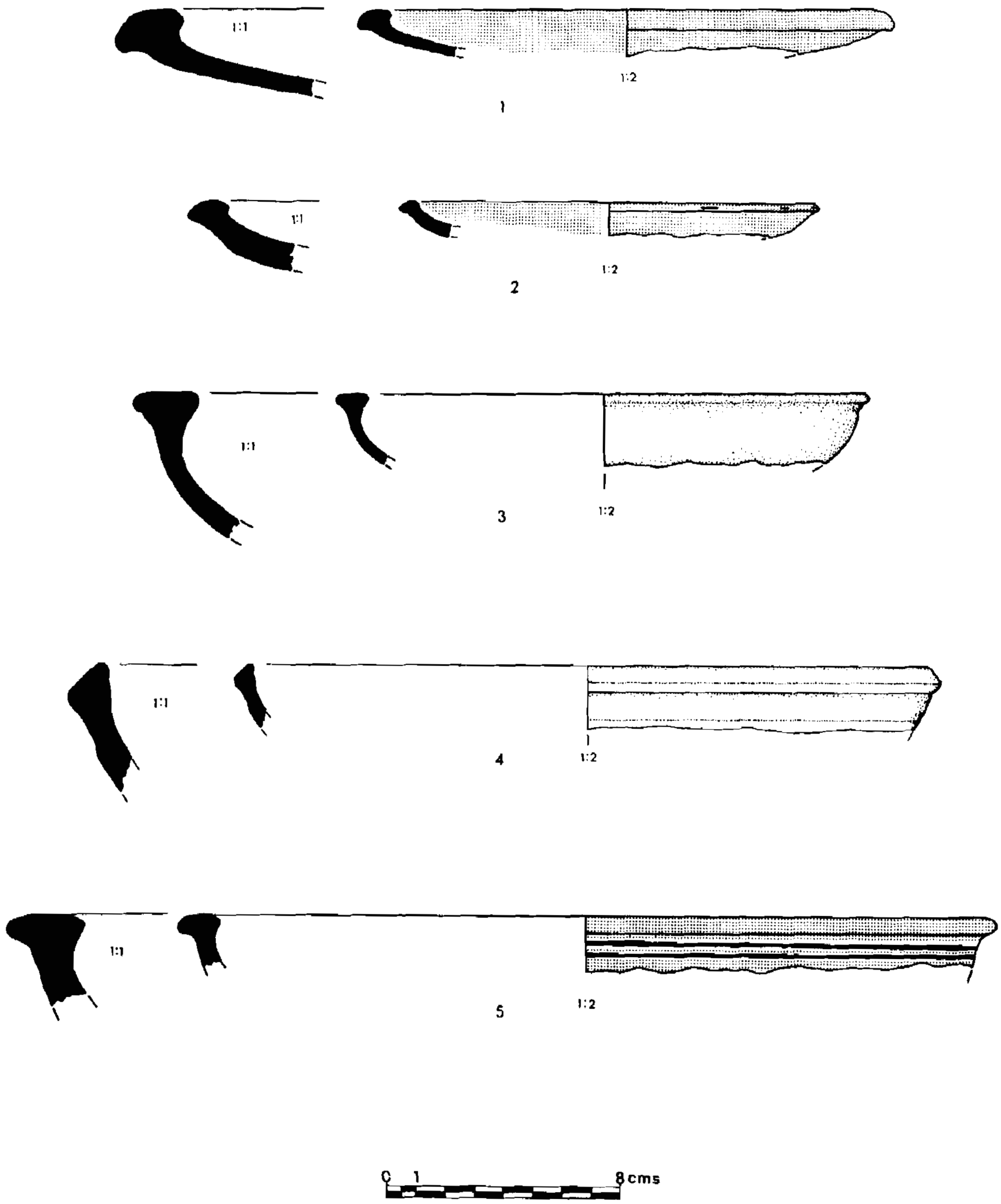

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0 1 8 cms

FIGURE 45

SUTKAGEN DOR: CERAMICS FROM TRENCHES A AND A1

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	52		A/4	4		Creamy slip.	Ma - Large Flat Bottomed Bowl, Small Variety, Plain Base	MD 36a & b
2	107		A1/3	5		Buff ware. Medium to fine paste. No conspicuous temper.	Ma- Large Flat Bottomed Bowl, Small Variety, Plain Base	MD 36a & b
3	14		A1/8	2		Small, gritty inclusions. Lower body molded.	O - Medium Plain Bowl with Molded Base	MD 38, 40
4	15		A1/8	2		Wheel-turned. Exterior and interior surfaces smoothed.	O - Medium Plain Bowl with Molded Base	MD 38, 40

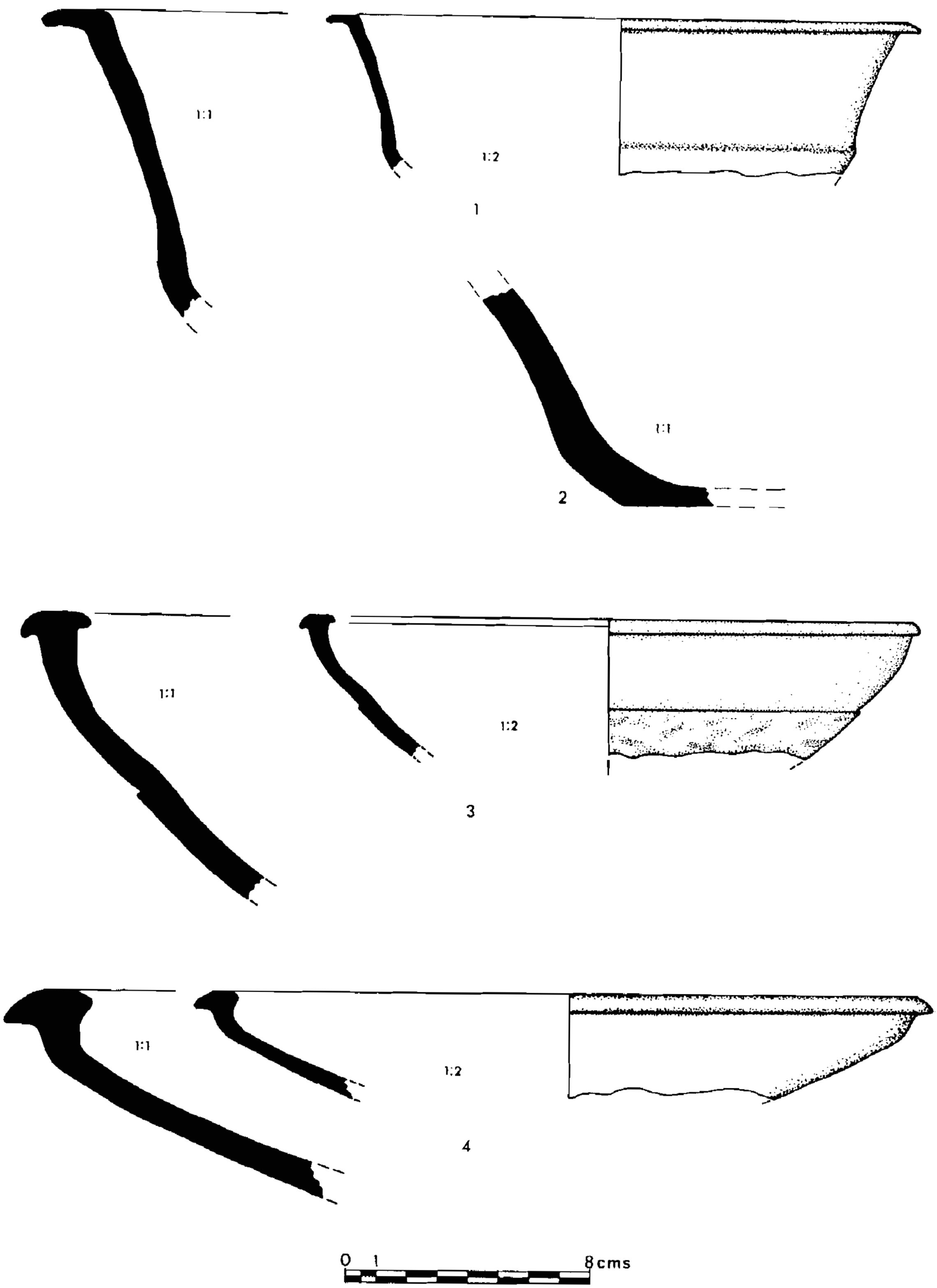

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0 1 8cms

FIGURE 46

SUTKAGEN DOR: CERAMICS FROM TRENCHES A AND A1

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	17	61-33-11, f	A1/9	2		No slip.	O - Medium Plain Bowl with Molded Base	MD 38, 40
2	100	61-33-1, b	A1/2	6		Red slip on interior and exterior.	P - Medium to Large Bowl	MD 41, 44, 47, 48
3	98		A/2	6		Cream slip.	O - Medium Plain Bowl with Molded Base	MD 38, 40
4	87		A1/2	6		Red slip on interior and exterior.	O - Medium Plain Bowl with Molded Base	MD 38, 40
5	99		A1/2	6		Reddish brown slip on interior and exterior.	P - Medium to Large Bowl	MD 41, 44, 47, 48
6	75		A/2	6	81	Cream slip.	X - Shallow Ribbed Bowl	See MD figure 57.4

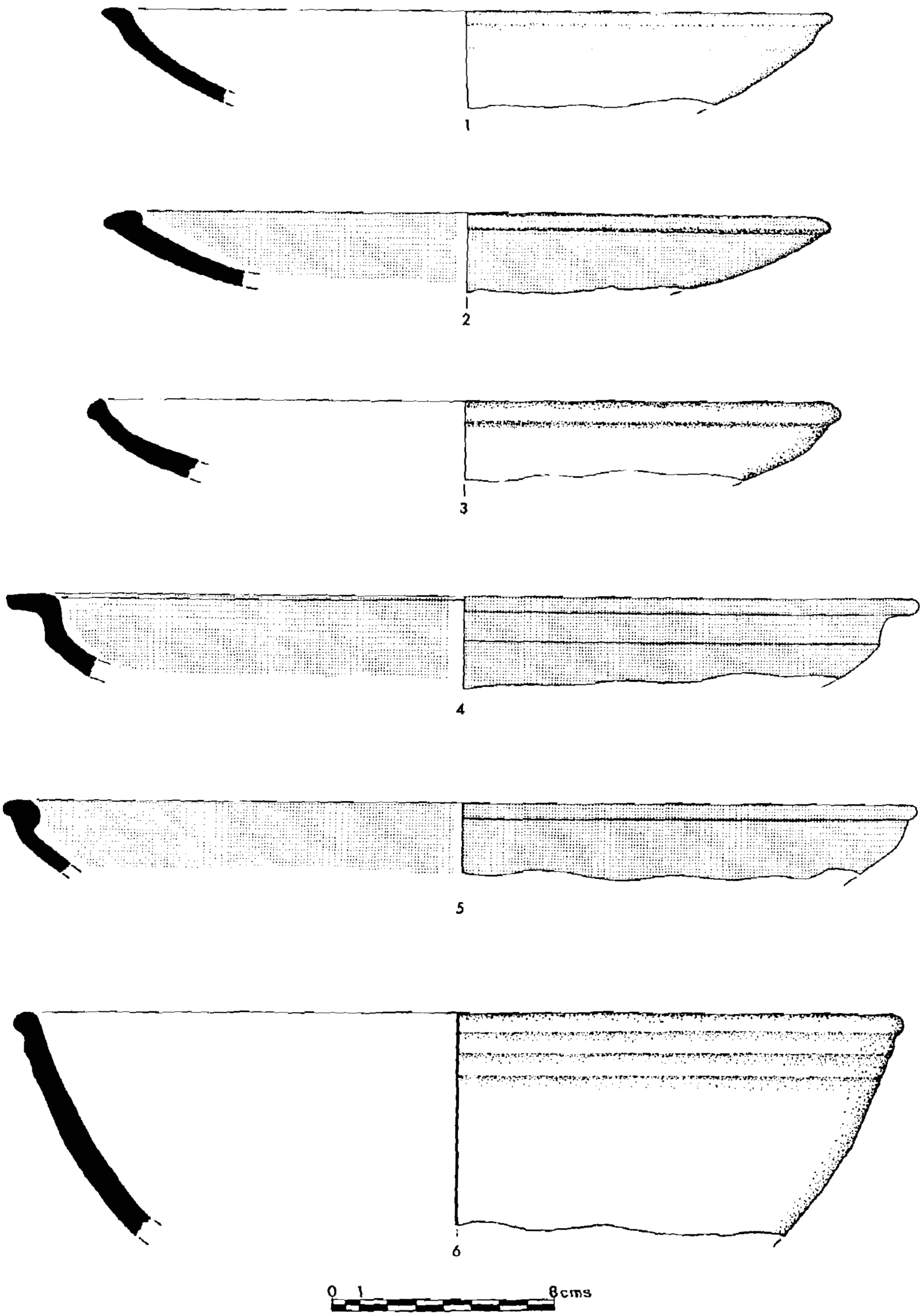

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0 1 8 cms

FIGURE 47

SUTKAGEN DOR: CERAMICS FROM TRENCHES A AND A1

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	88		A1/3A	5		Red slip on interior and exterior. Maximum diameter approximately 42.0 cm.	P - Medium to Large Bowl	MD 41, 44, 47, 48
2	90		A1/2	6		Small grit inclusions. Brownish red slip on interior and exterior. Black painted bands on rim edges.	P - Medium to Large Bowl	MD 41, 44, 47, 48
3	91		A1/2	6		External ridge suggests lower body was molded. Creamy colored surfaces.	P - Medium to Large Bowl	MD 41, 44, 47, 48

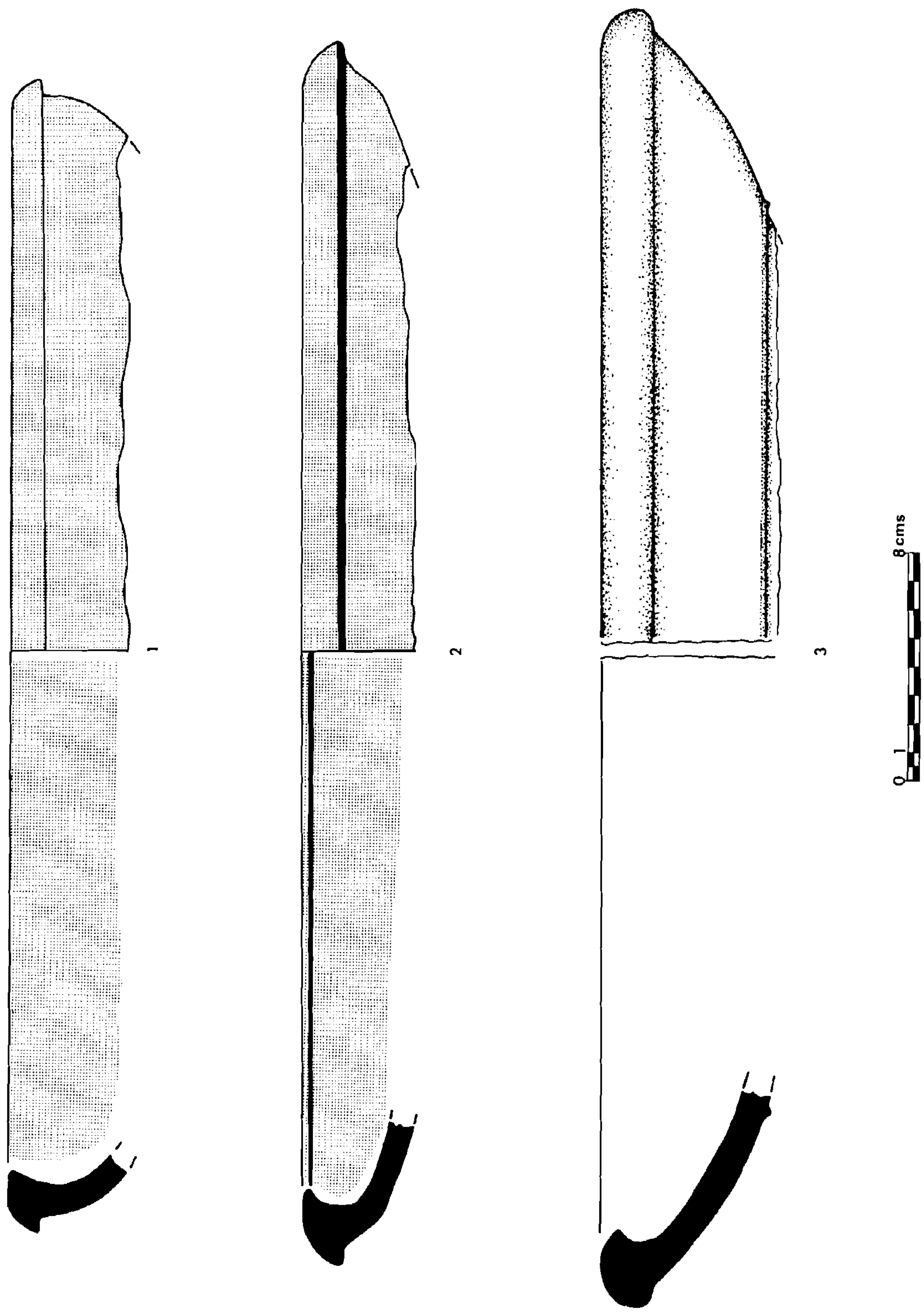

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FIGURE 48

SUTKAGEN DOR: CERAMICS FROM TRENCHES A AND A1

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	246	61-33-16, b	A/5	4		Upper, interior surface smoothed. Underside rough.	U - Pedestalled Bowl or Dish	MD 57, 58
2	161	61-33-1, h	A1/2	6		Fragment of pedestalled dish.	U - Pedestalled Bowl or Dish	MD 57, 58
3	184	61-33-4, i	A1/4	4		Solid red slip. Exceptionally fine sandy paste.	U - Pedestalled Bowl or Dish	MD 57, 58
4	164	61-33-7, l	A1/5	4		Base of pedestalled dish/bowl. No visible slip.	U - Pedestalled Bowl or Dish	MD 57, 58
5	172	61-33-3, b	A1/3A	5		Base rim of pedestalled dish/bowl. No trace of slip. Sherd too small for rim diameter.	U - Pedestalled Bowl or Dish	MD 57, 58
6	194	61-33-5, j	A1/4	4		Base rim for pedestalled dish/bowl. Solid red slip on exterior. Sherd too small for rim diameter.	U - Pedestalled Bowl or Dish	MD 57, 58
7	102		A1/3	5		No trace of slip. Base rim of pedestalled dish/bowl.	U - Pedestalled Bowl or Dish	MD 57, 58
8	103		A1/2	6		Base rim of pedestalled dish/base. Exterior has smoothed red slip. Underside surface rough.	U - Pedestalled Bowl or Dish	MD 57, 58
9	101	61-33-2, a	A1/3	5		Base rim of pedestalled dish/bowl. No trace of slip. Rim diameter approximate (only 8% preserved).	U - Pedestalled Bowl or Dish	MD 57, 58
10	94		A/2	6		Base rim of pedestalled dish/base. Cream slip on exterior.	U - Pedestalled Bowl or Dish	MD 57, 58

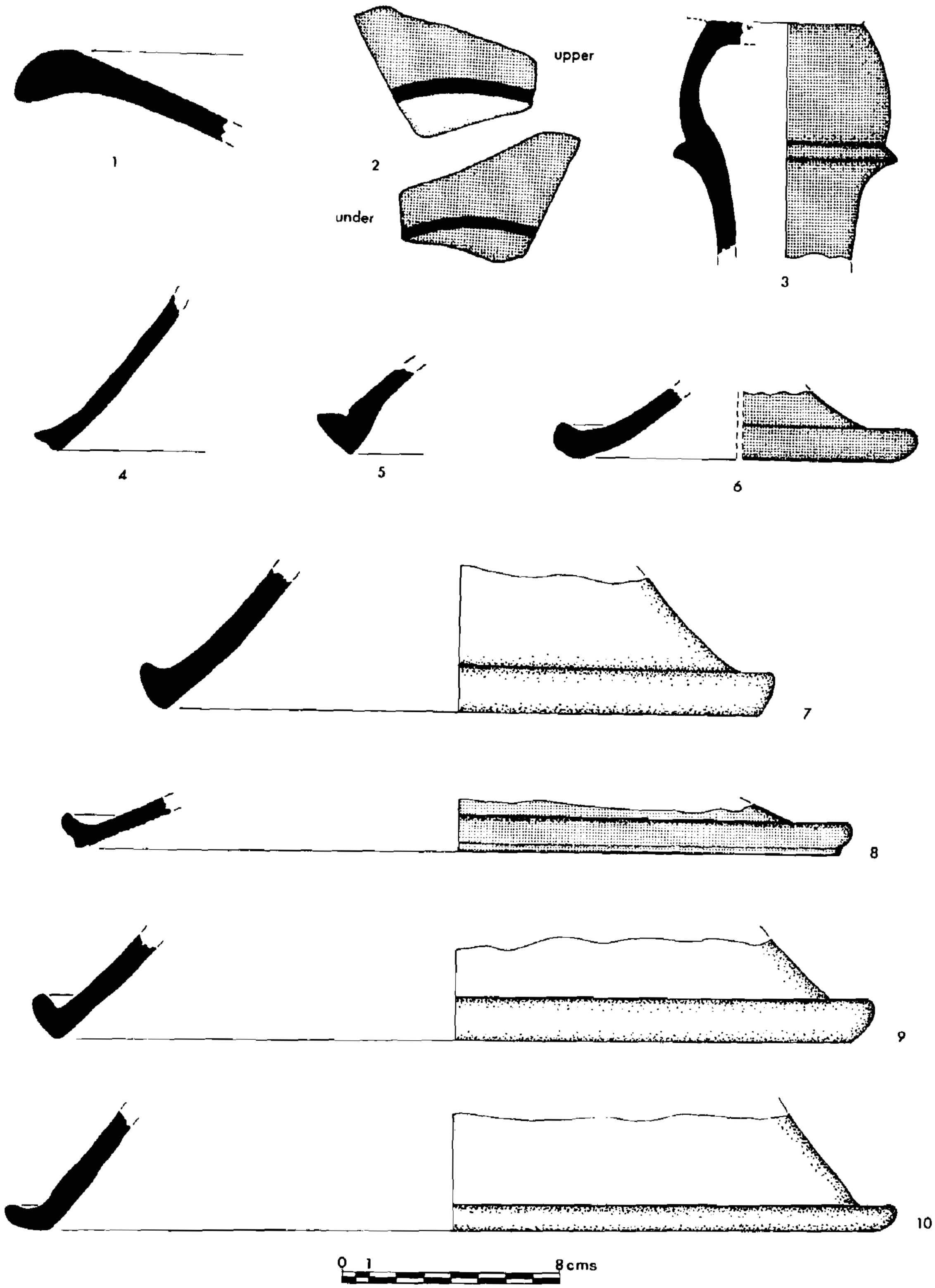

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FIGURE 49

SUTKAGEN DOR: CERAMICS FROM TRENCHES A AND A1

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	112		A1/3	5	78a	All lines and designs incised before firing. No trace of slip.	3 - Decorated Body Sherd/ Vessel Form Undetermined	
2	69		A1/4	4		Red slip. Black painted designs.	3 - Decorated Body Sherd/ Vessel Form Undetermined	
3	73	61-33-7, c	A1/5	4		Shallow parallel grooves "combed" before firing. No trace of slip.	3 - Decorated Body Sherd/ Vessel Form Undetermined	
4	110		A1/3	5		No overall slip. Designs in brownish-black paint.	3 - Decorated Body Sherd/ Vessel Form Undetermined	
5	113	61-33-2, m	A/3	5		Deep parallel grooves incised before firing. No trace of slip.	3 - Decorated Body Sherd/ Vessel Form Undetermined	
6	71		A/4	4		Parallel vertical indentations could be "chatter marks" made during the turning of the vessel on the wheel (?).	3 - Decorated Body Sherd/ Vessel Form Undetermined	
7	72		A1/4-5	4		All lines "combed" before firing. Red slip on exterior.	3 - Decorated Body Sherd/ Vessel Form Undetermined	
8	111		A/2	6		Horizontal grooves incised before firing. No trace of slip.	3 - Decorated Body Sherd/ Vessel Form Undetermined	
9	192	61-33-5, h	A1/4A	4		Upper body sherd of medium - small ledge shouldered jar-pot. Horizontal grooves incised before firing. Very fine sandy paste. Thin creamy slip on exterior.	3 - Decorated Body Sherd/ Vessel Form Undetermined	
10	68		A/5	4	78b	Crudely incised.	3 - Decorated Body Sherd/ Vessel Form Undetermined	
11	181	61-33-4, e	A1/4	4		Appears to be from the lowest part of the body, near base of jar-pot. Lines deeply incised before firing.	3 - Decorated Body Sherd/ Vessel Form Undetermined	

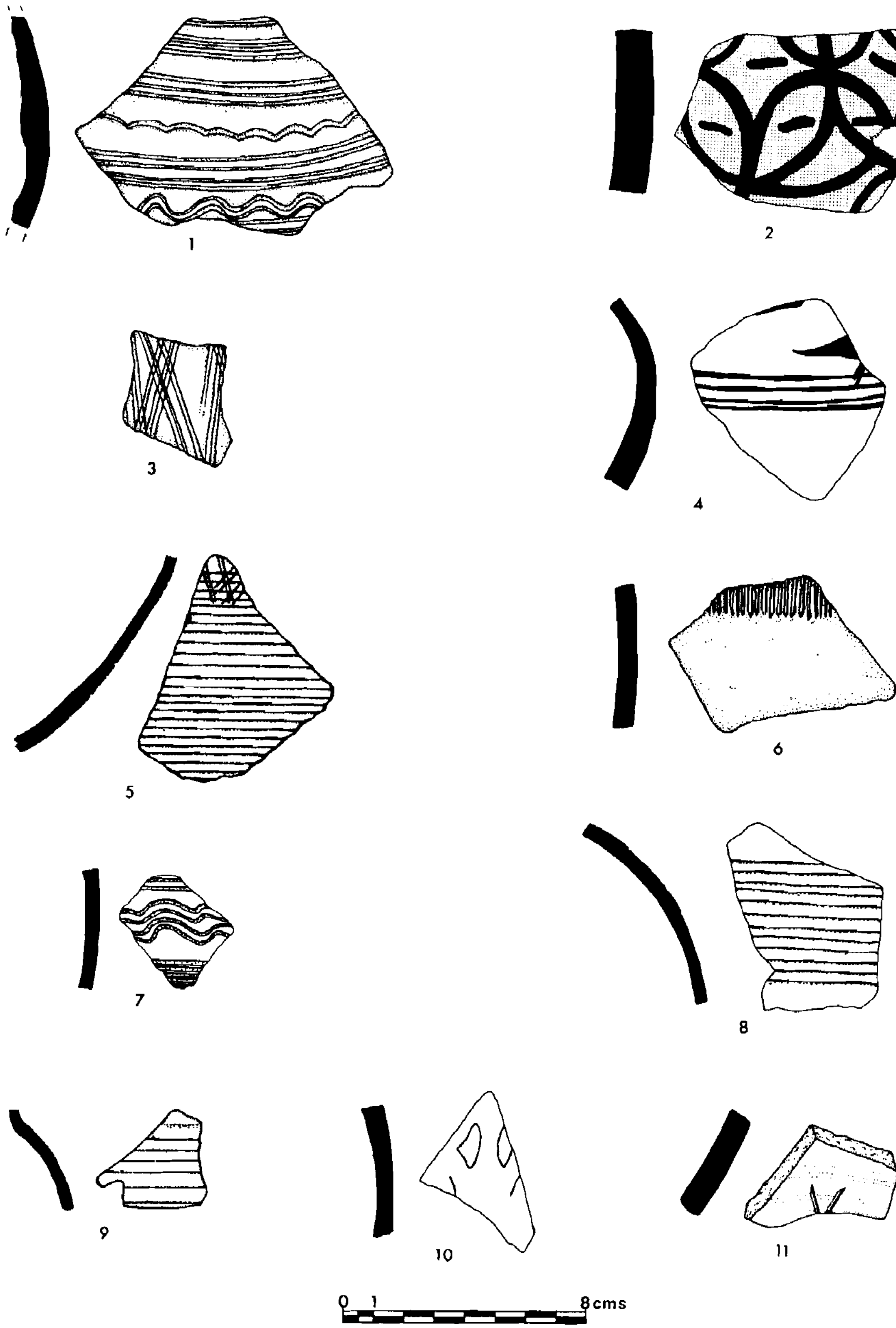

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Table 3 Vessel Type Distribution - Sutkagen Dor Trench A and A1

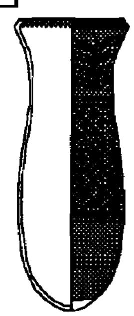
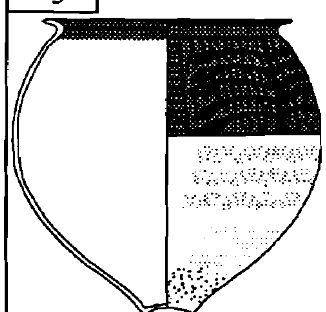
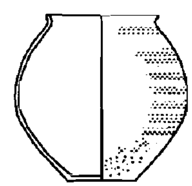
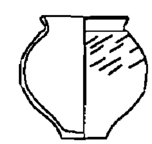
PHASE	A	B	D	E	F
6			Total 2 SD#78 (Fig. 37.1)		
5		Total 1 SD#114 (Fig. 40.1)	Total 5 SD#82 (Fig. 34.1) SD#167 (Fig. 37.2) SD#85 (Fig. 37.7) SD#76 (Fig. 38.1) SD#108 (Fig. 42.2)		Total 1 SD#86 (Fig. 36.2)
4	Total 1 SD#70 (Fig. 35.7)		Total 5 SD#35 (Fig. 34.3) SD#197 (Fig. 35.6) SD#33 (Fig. 37.8) SD#188 (Fig. 42.1) SD#168 (Fig. 42.3)	Total 1 SD#34 (Fig. 38.3)	Total 1 SD#253 (Fig. 36.1)
3					
2		Total 2 SD#19 (Fig. 40.2) SD#18 (Fig. 40.3)	Total 3 SD#1 (Fig. 37.6) SD#4 (Fig. 38.2) SD#3 (Fig. 38.7)		Total 1 SD#22 (Fig. 36.3)
VESSEL	Total 1 **A**  Large, Decorated Jars	Total 3 **B**  Very Large, Decorated Jar/Pots	Total 15 **D**  Medium and Large, Undecorated Globular Jar/Pots	Total 1 **E**  Medium, Undecorated Ledge-Shouldered Pots	Total 3 **F**  Small, Decorated or Plain Slipped Jar/Pots
MD	MD 1	MD 2	MD 5	MD 8b	MD 9,10

Table 4 Vessel Type Distribution - Sutkagen Dor Trench A and A1

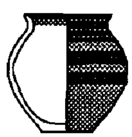
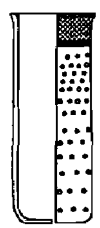
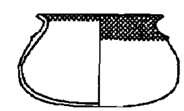
PHASE	G	H	I	J	K
6					
5	Total 1; SD#84 (Fig. 35.3)				Total 1; SD#80 (Fig. 39.1)
4		Total 1; SD#57 (Fig. 41.2)			Total 3; SD#26 (Fig. 39.3), SD#39 (Fig. 39.4), SD#109 (Fig. 42.4)
3					
2	Total 1; SD#10 (Fig.35.4)	Total 1; SD#23 (Fig. 41.1)	Total 1; SD#7 (Fig. 34.5)	Total 1; SD#24 (Fig. 36.11)	Total 1; SD#90 (Fig. 39.2)
VESSEL	Total 2 G  Medium, Decorated Jar/Pots	Total 2 H  Perforated Jars	Total 1 I  Medium, Plain Straight-Sided Jars	Total 1 J  Very Small, Plain Jars	Total 5 K  Ridged Bowl/Pots
MD	MD 12	MD 16	MD 17, 18, 21	MD 23	MD 26

Table 5 Vessel Type Distribution - Sutkagen Dor Trench A and A1

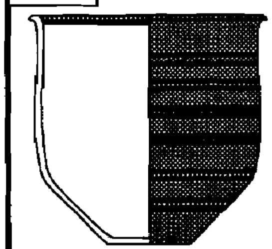
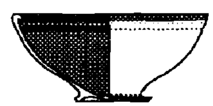
PHASE	La	M a	N	O	P
6	Total 2 SD#77 (Fig. 38.5) SD#79 (Fig. 37.5)			Total 2 SD#98 (Fig. 46.3) SD#87 (Fig. 46.4)	Total 5 SD#100 (Fig. 46.2) SD#87 (Fig. 46.4) SD#99 (Fig. 46.5) SD#90 (Fig. 47.2) SD#91 (Fig. 47.3)
5		Total 1 SD#107 (Fig. 45.2)			Total 1 SD#88 (Fig. 47.1)
4	Total 3 SD#28 (Fig. 35.8) SD#5 (Fig. 37.3) SD#27 (Fig. 38.4)	Total 1 SD#52 (Fig. 45.1)	Total 1 SD#48 (Fig. 44.5)	Total 1 SD#38 (Fig. 44.3)	Total 4 SD#62 (Fig. 42.6) SD#104 (Fig. 42.7) SD#65 (Fig. 42.8) SD#61 (Fig. 42.9)
3					
2	Total 2 SD#6 (Fig. 37.4) SD#3 (Fig. 38.7)			Total 4 SD#16 (Fig. 44.4) SD#14 (Fig. 45.3) SD#15 (Fig. 45.4) SD#17 (Fig. 46.1)	
VESSEL	Total 7 La  Large, Decorated Jar/Pots a - Vertical Sided	Total 2 M a  Large, Flat-Bottomed Bowls a - Small Variety, Plain Bases	Total 1 N  Large, Red Slipped Bowls	Total 7 O  Medium, Plain Bowls with Molded Base	Total 10 P  Large and Medium, Slipped and Painted Dish/Bowls Some with Ring Bases
MD	MD 32	MD 36a	MD 37, 39	MD 38, 40	MD 41, 44, 47, 48

Table 6 Vessel Type Distribution - Sutkagen Dor Trench A and A1

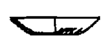
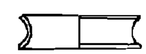
PHASE					
6		Total 1 SD#95 (Fig. 41.5)	Total 1 SD#92 (Fig. 43.4)	Total 3 SD#161 (Fig. 48.2) SD#103 (Fig. 48.8) SD#94 (Fig. 48.10)	
5		Total 3 SD#93 (Fig. 41.4a) SD#93 (Fig. 41.4b) SD#93 (Fig. 41.4c)	Total 1 SD#115 (Fig. 43.3)	Total 3 SD#172 (Fig. 48.5) SD#102 (Fig. 48.7) SD#101 (Fig. 48.9)	Total 1 SD#83 (Fig. 35.1)
4	Total 2 SD#51 (Fig. 44.1) SD#55 (Fig. 44.2)	Total 1 SD#46 (Fig. 41.6)	Total 2 SD#45 (Fig. 43.1) SD#43 (Fig. 43.2)	Total 4 SD#246 (Fig. 48.1) SD#184 (Fig. 48.3) SD#164 (Fig. 48.4) SD#194 (Fig. 48.6)	Total 1 SD#29 (Fig. 35.2)
3					
2					Total 1 SD#8 (Fig. 35.5)
VESSEL	Total 2 Q  Large Dishes	Total 5 R  Small, Plain Dish/Bowls	Total 4 T  Vertical Handled Cups	Total 10 U  Pedestalled Bowls and Dishes	Total 3 V  Ring Stands
MD	MD 49, 40, 51	MD 52, 53	MD 56	MD 43, 57, 58	MD 65

Table 7 Vessel Type Distribution - Sutkagen Dor Trench A and A1

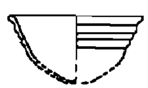
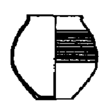
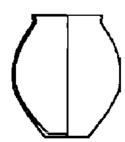
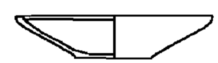
PHASE						
6		Total 1 SD#75 (Fig.46.6)		Total 4 SD#81 (Fig. 34.4) SD#66 (Fig. 36.5) SD#67 (Fig. 36.8) SD#74 (Fig.43.10)		Total 1 SD#111 (Fig. 47.8)
5				Total 2 SD#164 (Fig. 36.9) SD#228 (Fig.43.5)	Total 2 SD#97 (Fig. 41.3) SD#96 (Fig. 43.8)	Total 3 SD#112 (Fig. 47.1) SD#110 (Fig. 47.4) SD#113 (Fig. 47.5)
4	Total 1 SD#58 (Fig. 42.5)		Total 1 SD#25 (Fig. 34.7)	Total 7 SD#196 (Fig. 34.2) SD#251 (Fig. 34.6) SD#32 (Fig. 34.8) SD#37 (Fig. 36.4) SD#63 (Fig. 36.6) SD#60 (Fig. 36.7) SD#179 (Fig. 36.10)	Total 2 SD#53 (Fig. 43.6) SD#56 (Fig. 43.7)	Total 7 SD#69 (Fig. 47.2) SD#73 (Fig. 47.3) SD#71 (Fig. 47.6) SD#72 (Fig. 47.7) SD#192 (Fig. 47.9) SD#68 (Fig. 47.10) SD#181 (Fig. 47.11)
3						
2		Total 1 SD#11 (Fig. 35.9)				Total 1 SD#47 (Fig. 41.9)
VESSEL	Total 1 W  Channel Rimmed Base of Pot or Bowls	Total 2 X  Shallow Ribbed, Flaring Sided Bowls	Total 1 Y  Medium to Small Jar/Pots with Horizontally Incised Bands	Total 13 1  Miscellaneous Jar/Pots	Total 4 2  Miscellaneous Bowls	Total 12 3 ? Miscellaneous Vessels Form Undetermined Plain and Decorated Body Sherds
MD		See MD Figure 57.4	See MD Figure 45.5			

Table 8 Vessel Type Distribution - Trench D

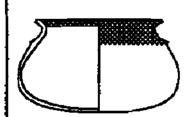
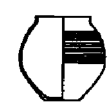
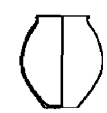
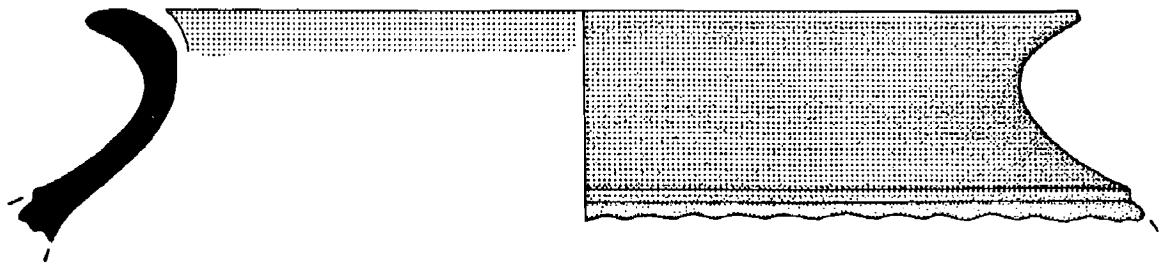
	J	K	M a	O	T	U	Y	1
Level 1-2, b	Total 1 SD#502 (Fig. 50.3)	Total 2 SD#518 (Fig. 51.6) SD#504 (Fig. 50.1)		Total 1 SD#116 (Fig. 51.7)	Total 4 SD#521 (Fig. 51.1) SD#506 (Fig. 51.2) SD#517 (Fig. 51.3) SD#117 (Fig. 51.4)		Total 1 SD#501 (Fig. 50.2)	Total 2 SD#505 (Fig. 51.5) SD#512 (Fig. 51.8)
Level 6			Total 1 SD#513 (Fig. 52.6)	Total 4 SD#508 (Fig. 52.2) SD#511 (Fig. 52.3) SD#507 (Fig. 52.4) SD#520 (Fig. 52.5)		Total 1 SD#512 (Fig. 52.1)		
VESSEL	Total 1 J  Very Small, Plain Jars	Total 2 K  Ridged Bowl/Pots	Total 1 M a  Large, Flat Bottomed Bowls a - Small Variety, Plain Base	Total 5 O  Medium, Plain Bowls with Molded Bases	Total 4 T  Vertical Handled Cups	Total 1 U  Pedestalled Dishes and Bowls	Total 1 Y  Medium to Small Jar/Pots with Horizontally Incised Bands	Total 2 1  Miscellaneous Jar/Pots
MD	MD 23	MD 26	MD 36a & b	MD 38, 40	MD 56	MD 43, 57, 58	See MD Figure 45.5	MD 26

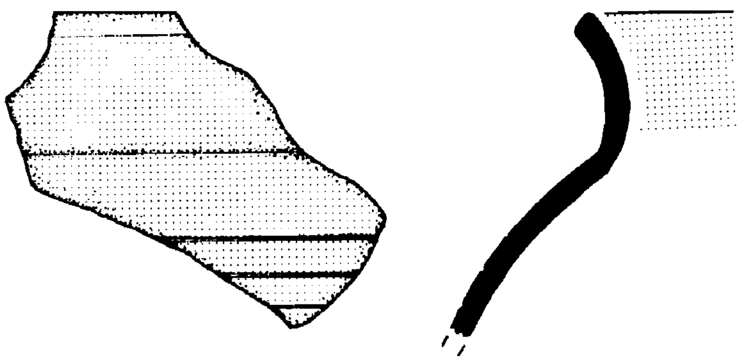
FIGURE 50

SUTKAGEN DOR: CERAMICS FROM TRENCH D, LEVEL 1-2, b

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	504	61-33-18, g	1-2, b	1		Rim and shoulder of ridged pot. Fine sandy paste, carefully trimmed. Thick red slip from shoulder ledge, up over rim to throat.	K - Ridged Bowl/Pot	MD 26
2	501	61-33-18, b	1-2, b	2		Deep horizontal grooves on upper body. Creamy slip on exterior and over rim.	Y - Medium to Small Jar/Pot with Horizontally Incised Bands	See MD plate 45.5
3	502	61-33-18, d	1-2, b	2		Base crudely string cut. No trace of slip.	J - Small, Plain Jar with Disk Base.	MD 23



1



2



3



FIGURE 51

SUTKAGEN DOR: CERAMICS FROM TRENCH D, LEVEL 6

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	521	61-33-19, g	6	1		Rim and body of vertical handled cup.	T - Vertical Handled Cup	MD 56
2	506	61-33-19, b	6	1		Rim and body of vertical handled cup.	T - Vertical Handled Cup	MD 56
3	517	61-33-19, m	6	1		Handle for vertical handled cup.	T - Vertical Handled Cup	MD 56
4	117		6	1		Complete profile for vertical handled cup.	T - Vertical Handled Cup	MD 56
5	505	61-33-19, a	6	1			1 - Miscellaneous Jar/Pot	
6	518	61-33-19, n	6	1			K - Ridged Bowl/Pot	MD 26
7	116		6	1		Base exterior molded.	O - Medium, Plain Bowl with Molded Base.	MD 38, 40
8	514	61-33-19, j	6	1		Lower body and base received secondary treatment: horizontal scraping on the body and carving on the base disc.	1 - Miscellaneous Jar/Pot	

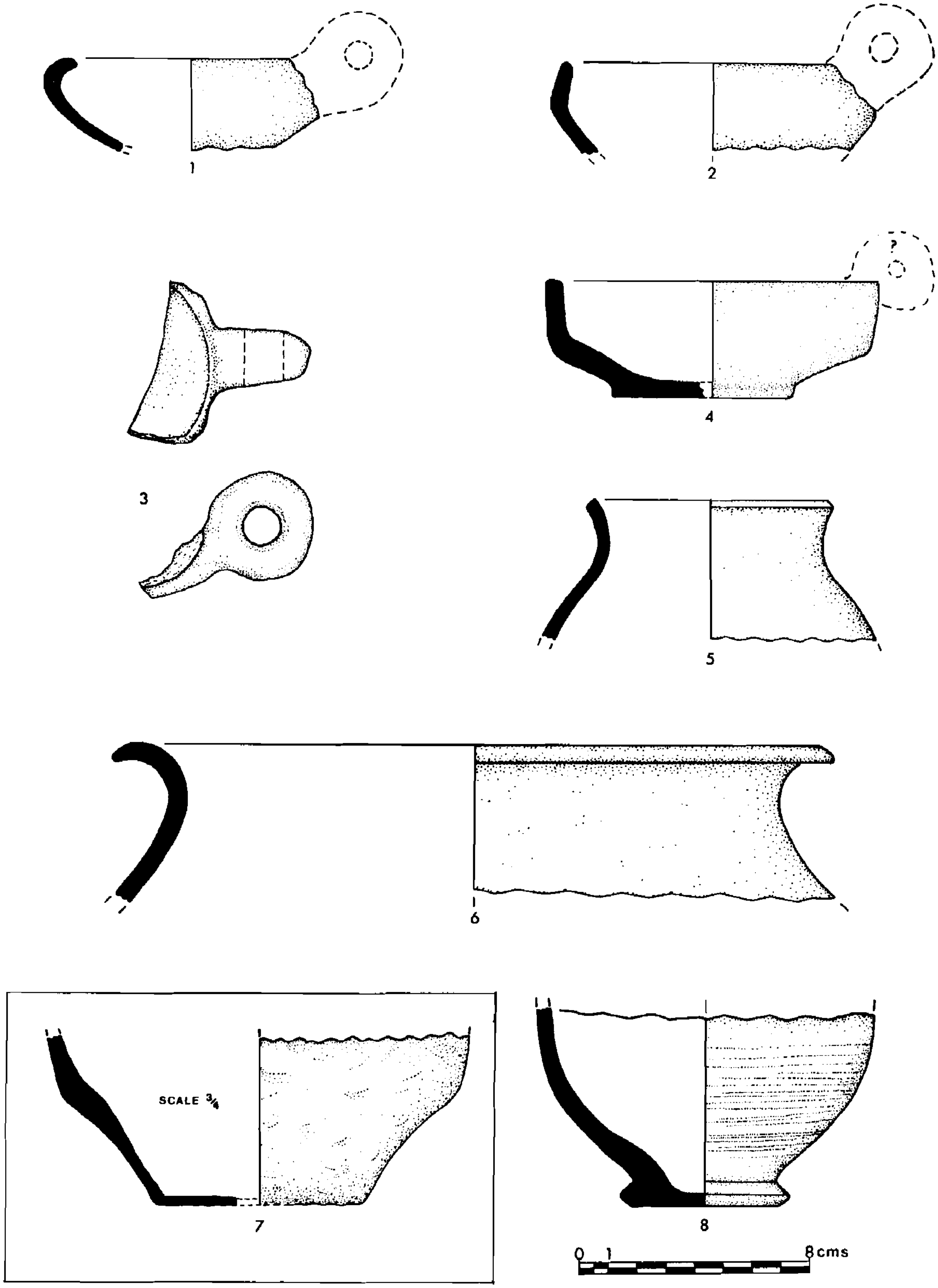

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FIGURE 52

SUTKAGEN DOR: CERAMICS FROM TRENCH D, LEVEL 6

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	512	61-33-19, h	6	1		Possible traces of slip on exterior. Underside of base rough, irregularly scraped.	U - Pedestalled Bowl/Dish	MD 57, 58
2	508	61-33-19, d	6	1		Sherd too small for accurate measurement of diameter or profile angle.	O - Medium, Plain Bowl with Molded Base	MD 38, 40
3	511	61-33-19, q	6	1		Lower body exterior irregularly scraped.	O - Medium, Plain Bowl with Molded Base	MD 38, 40
4	507	61-33-19, c	6	1		Lower body exterior has parallel horizontal scraped grooves.	O - Medium, Plain Bowl with Molded Base	MD 38, 40
5	520	61-33-19, p	6	1			O - Medium, Plain Bowl with Molded Base	MD 38, 40
6	513	61-33-19, i	6	1			Ma - Large, Flat Bottomed Bowl. Smaller Variety	MD 36a & b

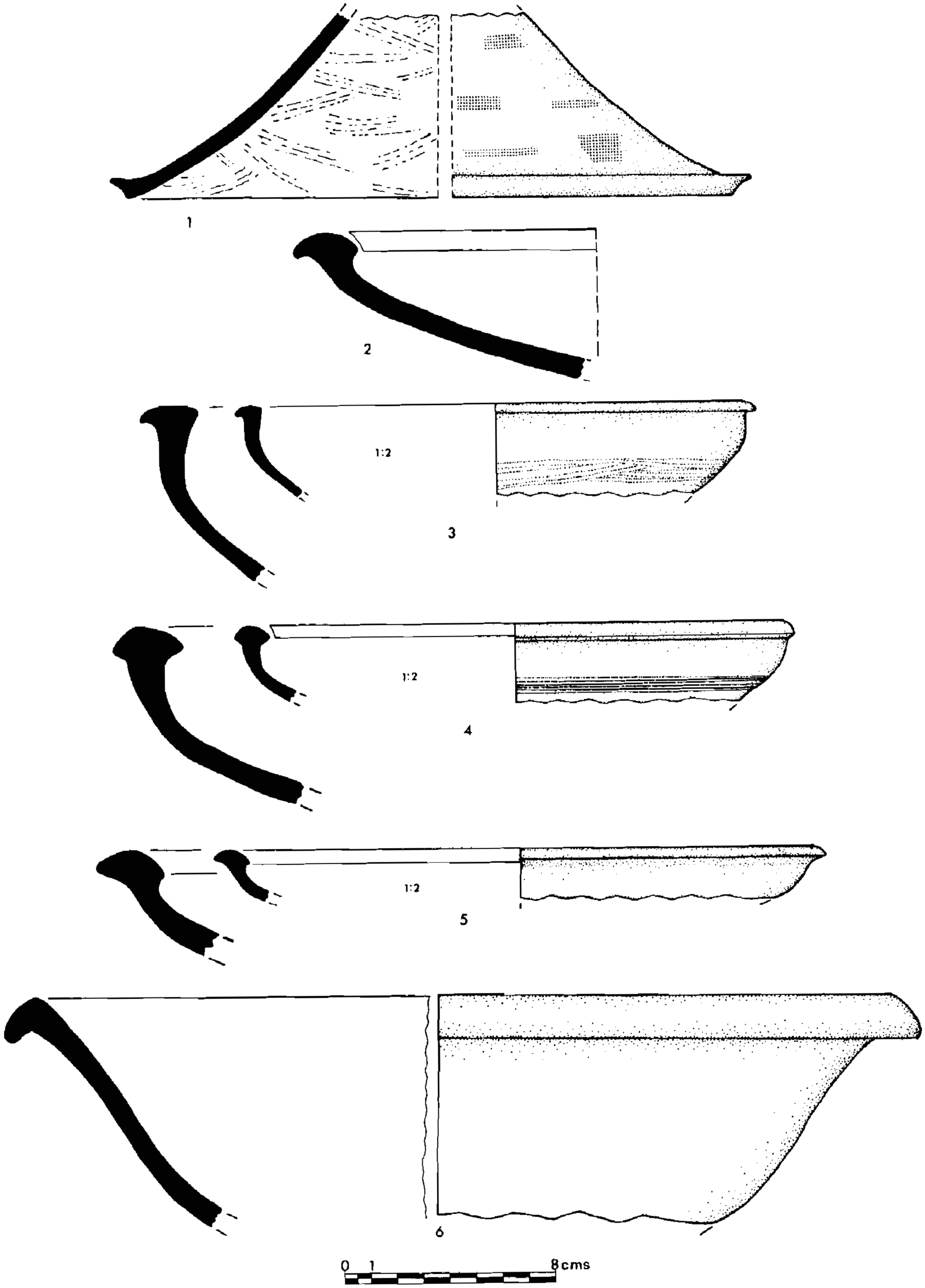
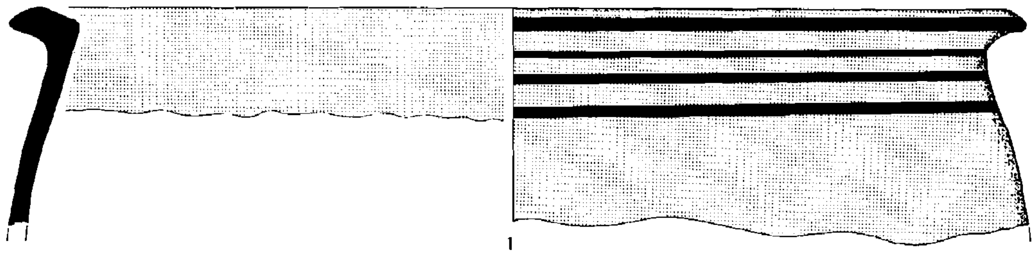

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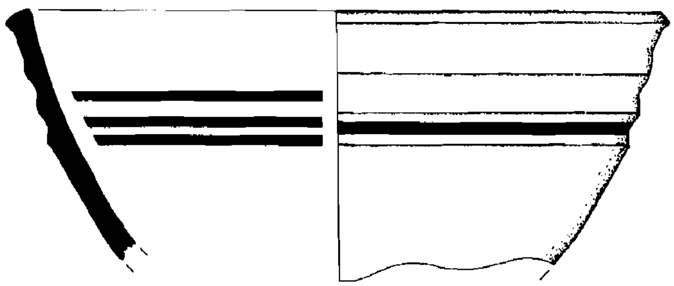
FIGURE 53

SUTKAGEN DOR: CERAMICS FROM SURFACE

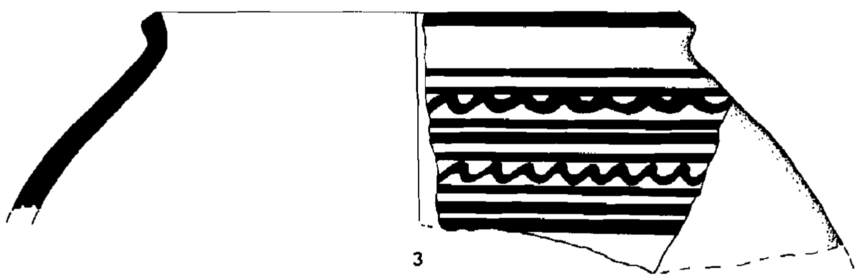
Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	154		Surface			Red slip, black painted bands.	Lb - Large, Decorated Jar/Pot, Large Variety	MD 32
2	124		Surface			Interior surface creamy color with light painted bands. Exterior surface pink to white with dark painted band.	X - Shallow Ribbed Bowl or Pot	See MD figure 57.4
3	118		Surface			No slip. Black painted bands.	G - Medium, Decorated Jar/Pot	MD 12
4	149		Surface			Buff ware. Very porous, full of tiny air holes. Mica and grit temper. Black paint.	G - Medium, Decorated Jar/Pot	MD 12
5	143		Surface			Holes punched through body wall before firing. No trace of slip.	H - Perforated Jar	MD 16



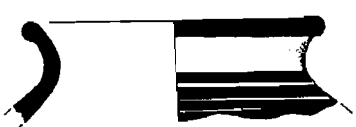
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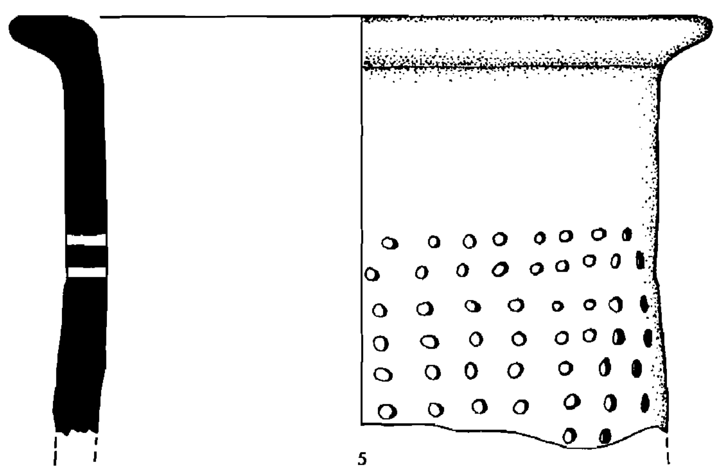
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FIGURE 54

SUTKAGEN DOR: CERAMICS FROM SURFACE

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	150		Surface			Brownish-red paint. Diameter approximate.	1 - Miscellaneous Jar/Pot	
2	127		Surface			Surfaces heavily weathered.	J - Small, Plain Jar. Sharply Carinated Body	See MD figure 25.10
3	137		Surface			Light grey. Evenly fired.	3 - Miscellaneous Vessel	
4	142		Surface			No trace of slip.	I - Medium, Plain, Straight-Sided Jar	MD 17, 18, 21
5	128		Surface			No trace of slip.	J - Small, Plain Jars	
6	136		Surface			Light grey. Evenly fired.	3 - Miscellaneous Vessel. Form Undetermined. Grey Ware	
7	130		Surface			Brownish slip, polished on interior and exterior surfaces.	P - Large and Medium Slipped Dish/Bowl. Ring Base	MD 41, 44, 47, 48
8	145		Surface			Red slip on exterior. Base originally string cut but then ground to absolute flatness.	C - Small, Decorated Bottle	MD 63
9	148		Surface			Red slip on entire exterior including underside of base. Ridge across maximum body diameter.	3 - Vessel Form Unknown. Probably Post-Harappan or Historic	

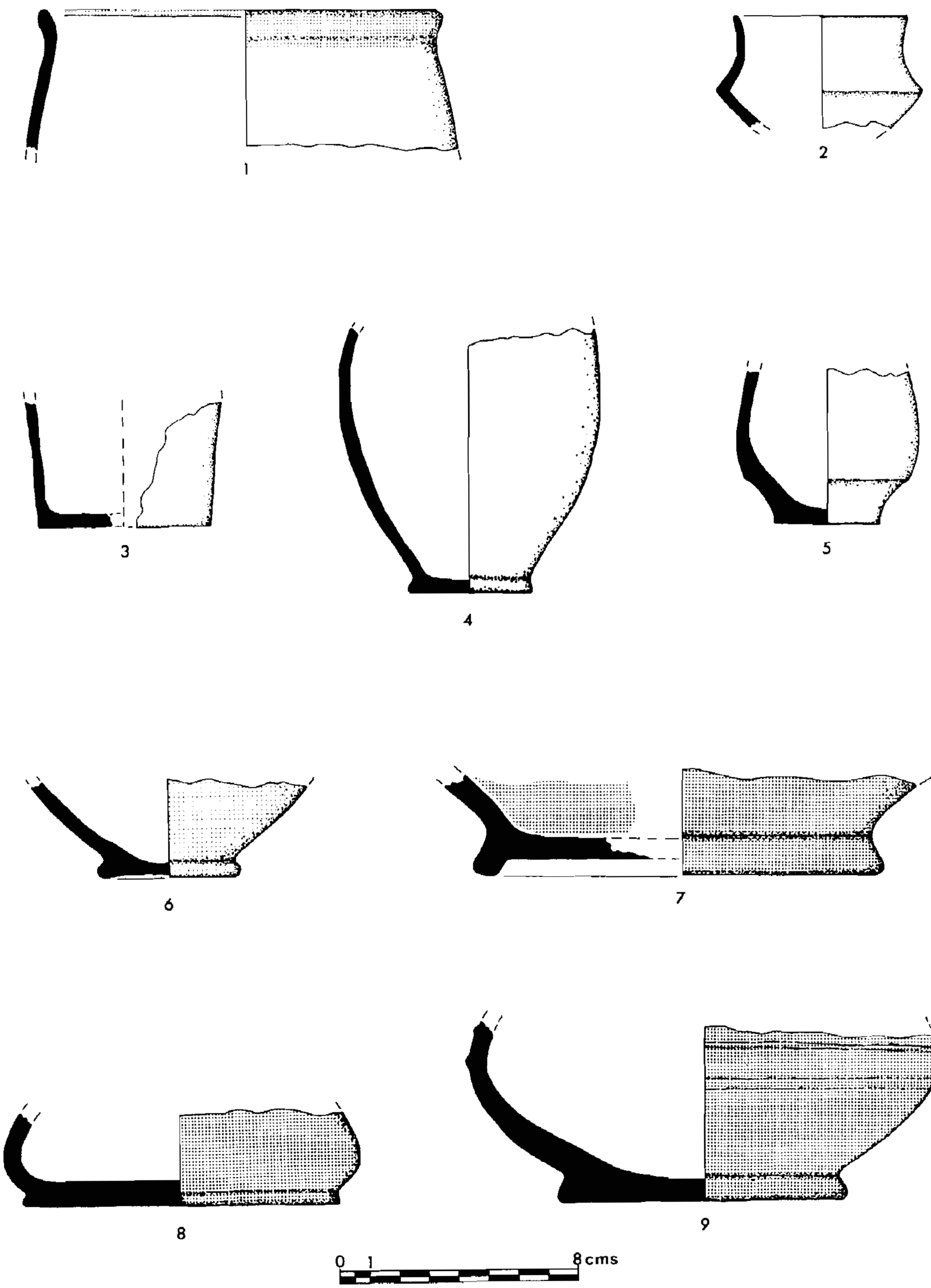

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FIGURE 55

SUTKAGEN DOR: CERAMICS FROM SURFACE

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	153		Surface			Very fine paste. No slip. Black paint.	S - Small, Painted Bowl	See MD figures 62and 63
2	119		Surface			Red slip. Black paint.	U - Pedestalled Dish/Bowl	MD 57, 58
3	140		Surface			Coarseware with many large stony inclusions. Fired to reddish color. Red painted designs. Possibly modern.	U - Pedestalled Dish/Bowl	MD 57, 58
4	131		Surface			Fired to a reddish color. Red slip with darker red painted loops.	U - Pedestalled Dish/Bowl	MD 57, 58
5	147		Surface			Yellowish sandy ware. Surfaces damaged. Preserved paint is very light brown in color.	U - Pedestalled Dish/Bowl	MD 57, 58

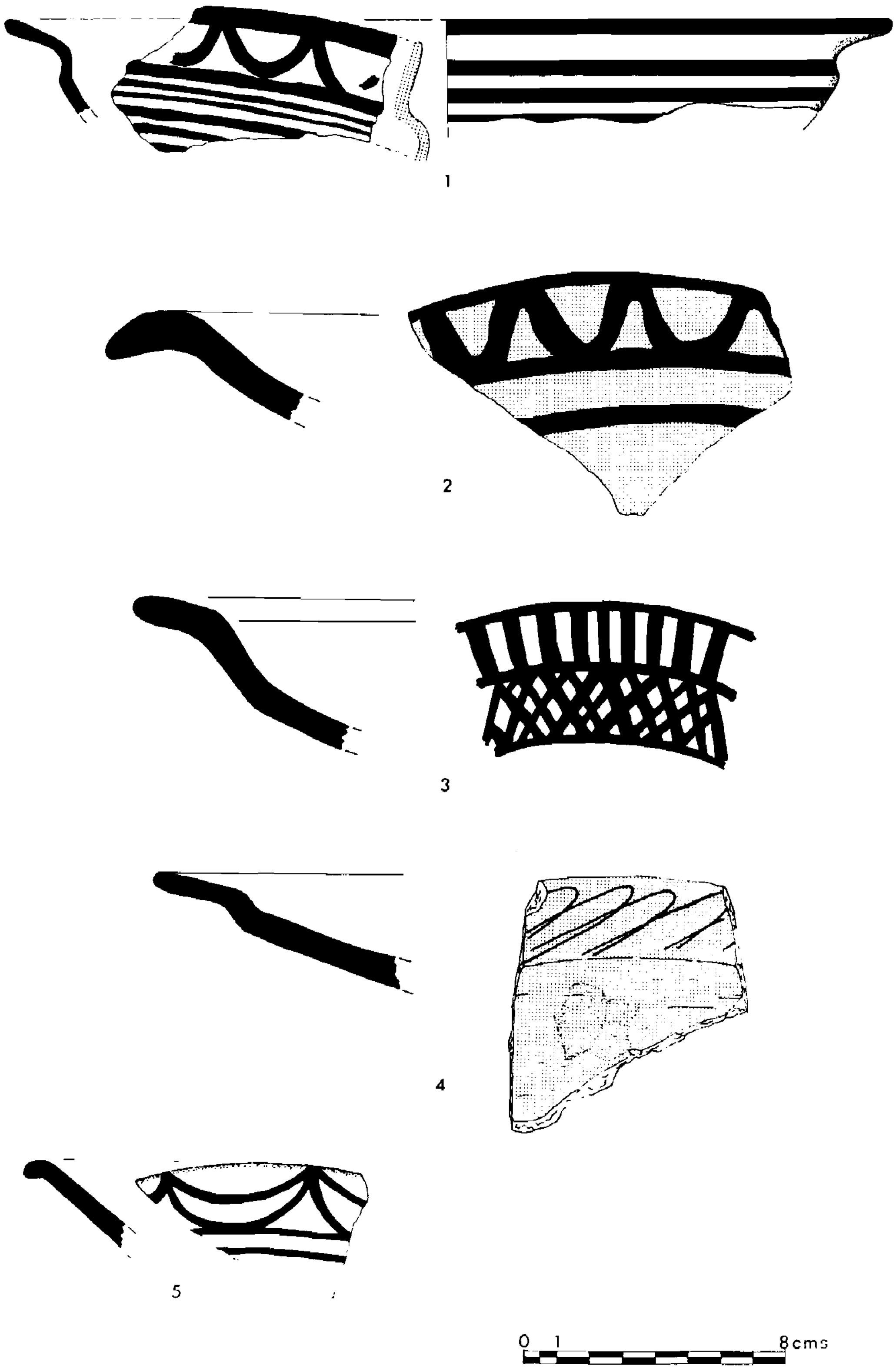

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FIGURE 56

SUTKAGEN DOR: CERAMICS FROM SURFACE

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	135		Surface			No slip. Black painted designs.	3 - Decorated Body Sherd/Vessel Form Undetermined	
2	146		Surface			Carinated pot. Red slip. Black paint.	3 - Decorated Body Sherd/Vessel Form Undetermined	
3	151		Surface			Light grey ware. Dark brownish black paint.	3 - Decorated Body Sherd/Vessel Form Undetermined	
4	152		Surface			Extremely thin wall. Light grey ware. Black paint.	3 - Decorated Body Sherd/Vessel Form Undetermined	
5	144		Surface			Shoulder of pot. No slip. Black paint.	3 - Decorated Body Sherd/Vessel Form Undetermined	
6	132		Surface			Rather coarse buffware. Cream slip on exterior. Black paint.	3 - Decorated Body Sherd/Vessel Form Undetermined	
7	123		Surface			Red slip. Black paint. Vertical profile; slightly thinner at top than at bottom.	3 - Decorated Body Sherd/Vessel Form Undetermined	
8	122		Surface			Red slip. Black paint.	3 - Decorated Body Sherd/Vessel Form Undetermined	
9	139		Surface			No slip. Brown paint.	3 - Decorated Body Sherd/ Vessel Form Undetermined	
10	125		Surface			No slip. Brownish black paint.	3 - Decorated Body Sherd/ Vessel Form Undetermined	

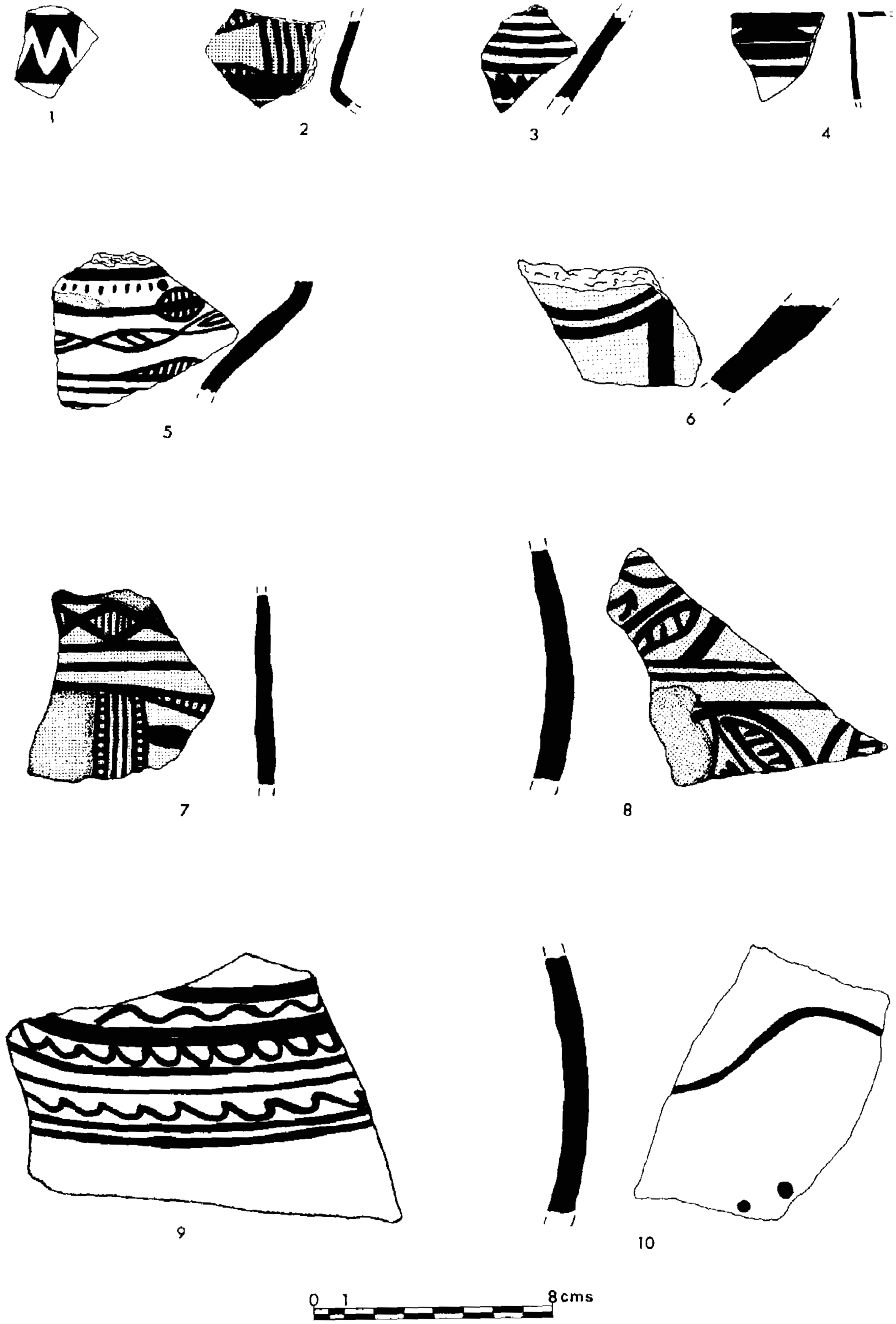

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FIGURE 57

SUTKAGEN DOR: CERAMICS FROM SURFACE

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	133		Surface		85a	Light greenish ware. Horizontally incised bands. Other designs impressed.	3 - Decorated Body Sherd/Vessel Form Undetermined	
2	134		Surface		85b	Incised before firing.	3 - Decorated Body Sherd/Vessel Form Undetermined	
3	155		Surface			Very coarse ware with round and angular stone temper. Incised before firing.	3 - Decorated Body Sherd/Vessel Form Undetermined	
4	156		Surface			Coarse ware, rough surfaces, large inclusions. Creamy exterior surface fired to greenish cast.	3 - Decorated Body Sherd/Vessel Form Undetermined	
5	158		Surface			Many small stone inclusions. Fired to brownish-red. Incised before firing.	3 - Decorated Body Sherd/Vessel Form Undetermined	
6	120		Surface		86	Incised before firing.	3 - Decorated Body Sherd/Vessel Form Undetermined	
7	157		Surface			Incised before firing.	3 - Decorated Body Sherd/Vessel Form Undetermined	
8	141		Surface			"Window Lattice." Cream slip on one side.	3 - Decorated Body Sherd/Vessel Form Undetermined	
9	121		Surface		87	Incised before firing.	3 - Decorated Body Sherd/Vessel Form Undetermined	

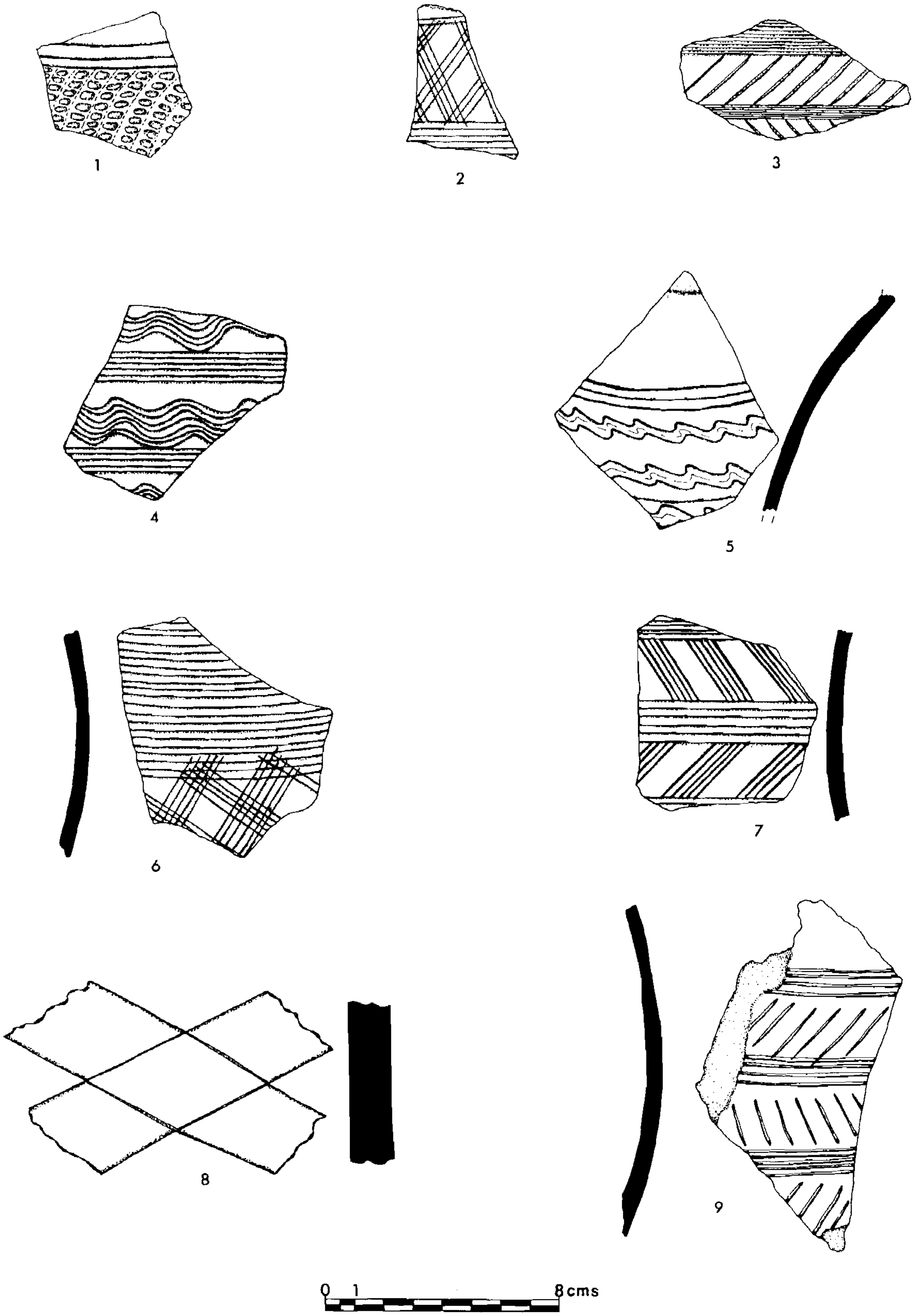

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FIGURE 58

SUTKAGEN DOR: CERAMICS FROM SURFACE

Figure No.	SD No.	University Museum No.	Trench/ Level	Phase	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	159		Surface			Coarse ware with stony inclusions. Fired to dark red color. Dark reddish paint. Modern sherd.	Modern	
2	138, b		Surface			Very coarse ware with many large stony and gritty inclusions. Appears to have been hand formed. Impressed circle designs. Modern.	Modern	
3	138, a		Surface		84	Very coarse ware with many large stony and gritty inclusions. Appears to be hand formed. Modern.	Modern	

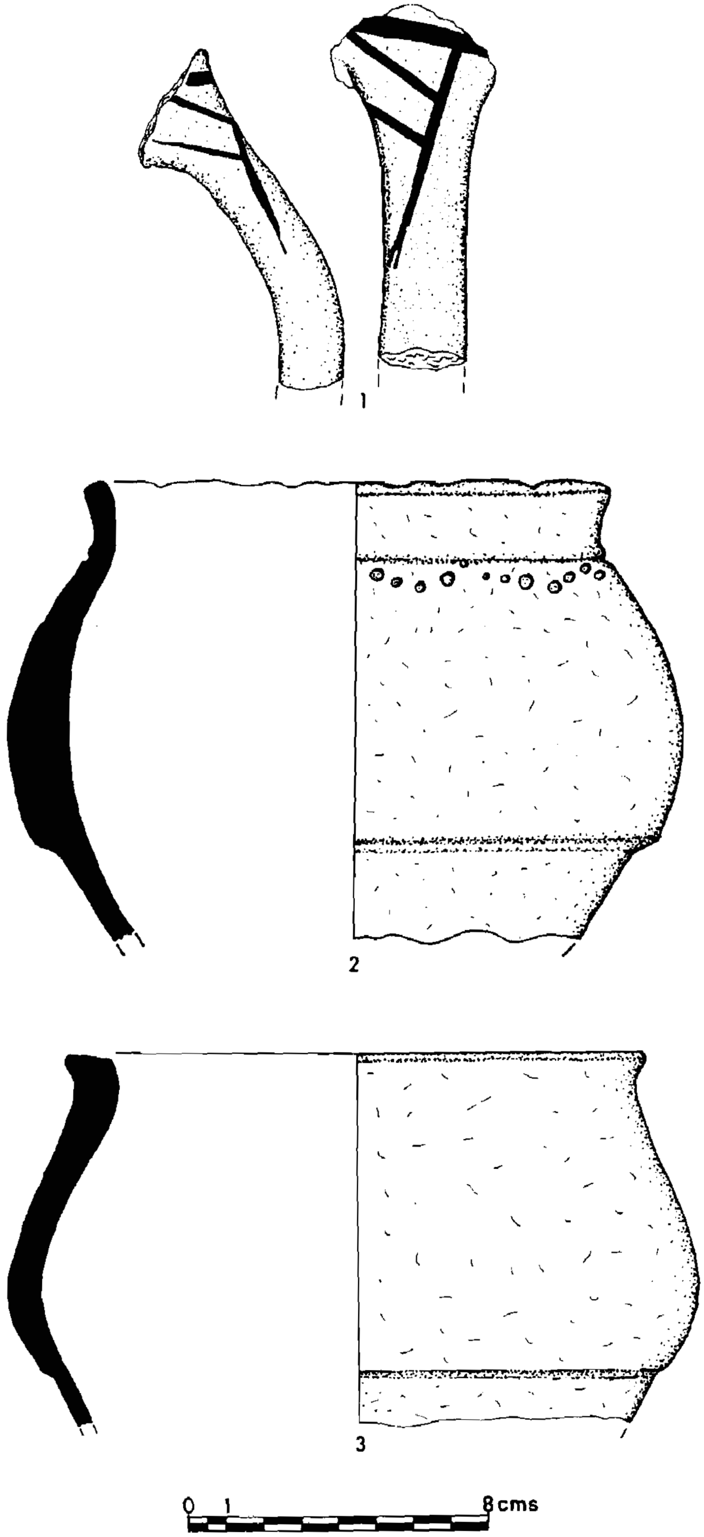
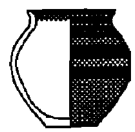
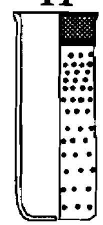
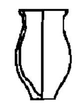
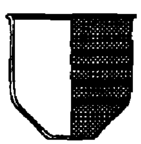
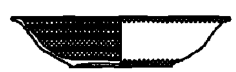
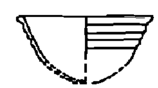

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Table 9 Vessel Type Distribution - Sutkagen Dor Surface

MD VESSEL	C	G	H	I	J
	SD#145 (Fig. 54.8)	SD#118 (Fig. 53.3) SD#149 (Fig. 53.4)	SD#143 (Fig.53.5)	SD#142 (Fig. 54.4)	SD#127 (Fig. 54.2) SD#128 (Fig. 54.5)
Total	1	2	1	1	2
					
	Small, Decorated Bottles	Medium, Decorated Jar/Pots	Perforated Jars	Medium, Plain Straight-Sided Jars	Very Small, Plain Jars
	MD 63	MD 12	MD 16	MD 17, 18, 21	MD 23

MD VESSEL	Lb	P	S	U	X	3
	SD#154 (Fig. 53.1) SD#124 (Fig. 53.2)	SD#130 (Fig. 54.7)	SD#153 (Fig. 55.1)	SD#119 (Fig. 55.2) SD#140 (Fig. 55.3) SD#131 (Fig. 55.4) SD#147 (Fig. 55.5)	SD#124 (Fig. 53.2)	SD#137 (Fig. 54.3) SD#136 (Fig. 54.6) SD#148 (Fig. 54.9) SD#135 (Fig. 56.1) SD#146 (Fig. 56.2) SD#151 (Fig. 56.3) SD#152 (Fig. 56.4) SD#144 (Fig. 56.5) SD#132 (Fig. 56.6) SD#123 (Fig. 56.7) SD#122 (Fig. 56.8) SD#139 (Fig. 56.9) SD#125 (Fig. 56.10) SD#133 (Fig. 57.1) SD#134 (Fig. 57.2) SD#155 (Fig. 57.3) SD#156 (Fig. 57.4) SD#158 (Fig. 57.5) SD#120 (Fig. 57.6) SD#157 (Fig. 57.7) SD#141 (Fig. 57.8) SD#121 (Fig. 57.9)
Total	2	1	1	4	1	22
						?
	Large, Decorated Jar/Pots b - Concave Sided	Large and Medium, Slipped and Painted Dish/Bowls Some with Ring Bases	Small, Painted, Carinated Bowls	Pedestalled Bowls and Dishes	Shallow Ribbed, Flaring Sided Bowls	Vessel Form Undetermined
	MD 32	MD 41, 44, 47, 48	MD 45b	MD 43, 57, 58	See MD Figure 57.4	

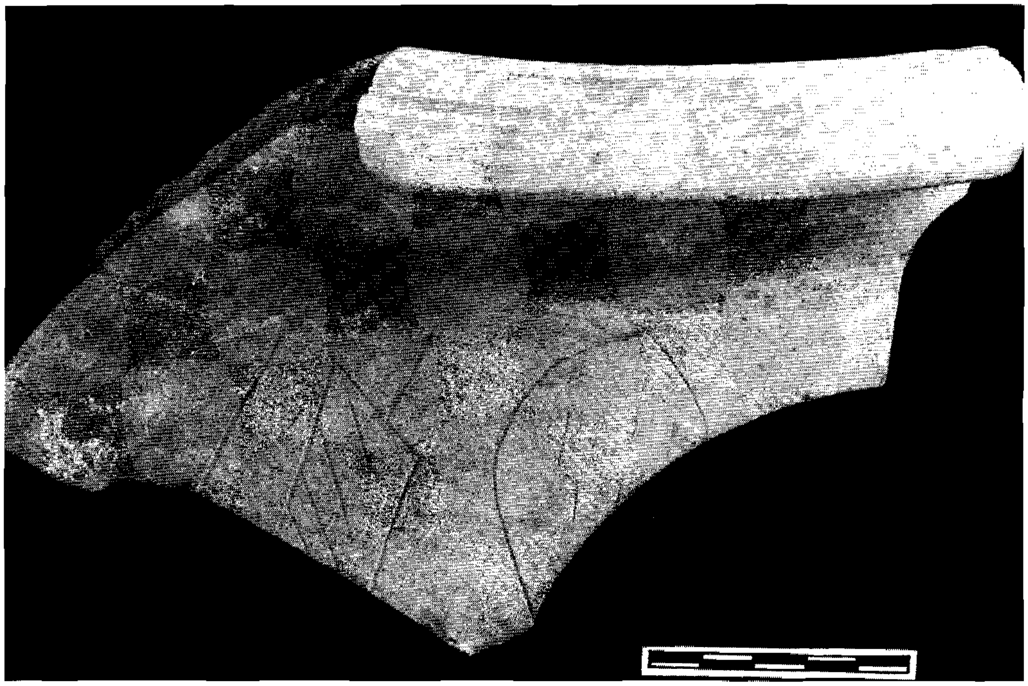


Plate 77 Sutkagen Dor, Sherd SD#114

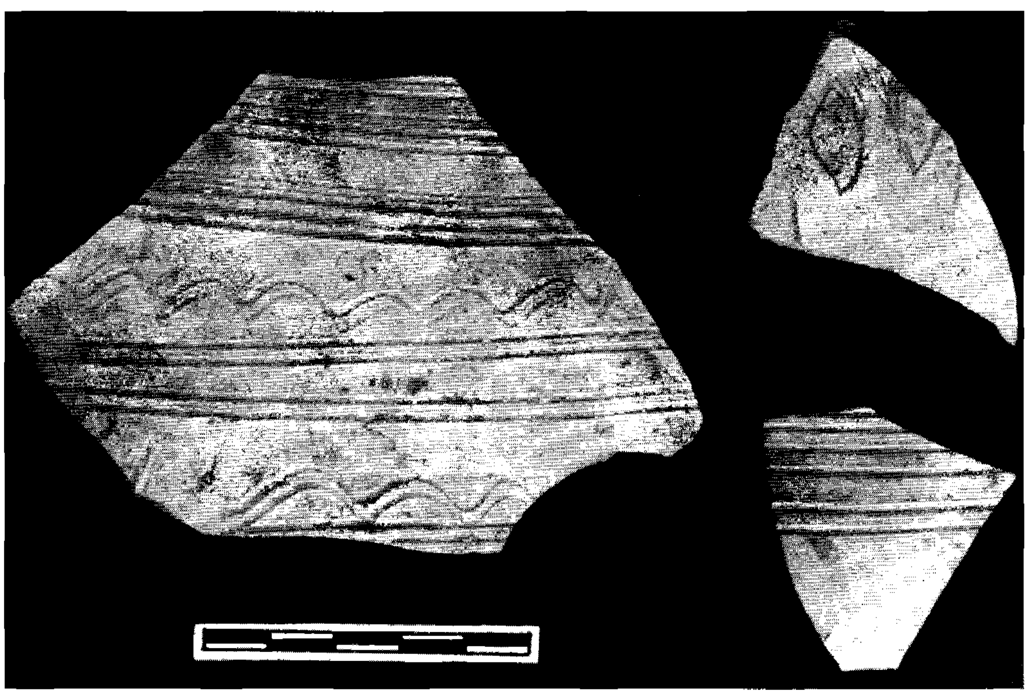


Plate 78 a. Sutkagen Dor, Sherd SD#112 b. Sutkagen Dor, Sherd SD#68
c. Sutkagen Dor, Sherd not drawn

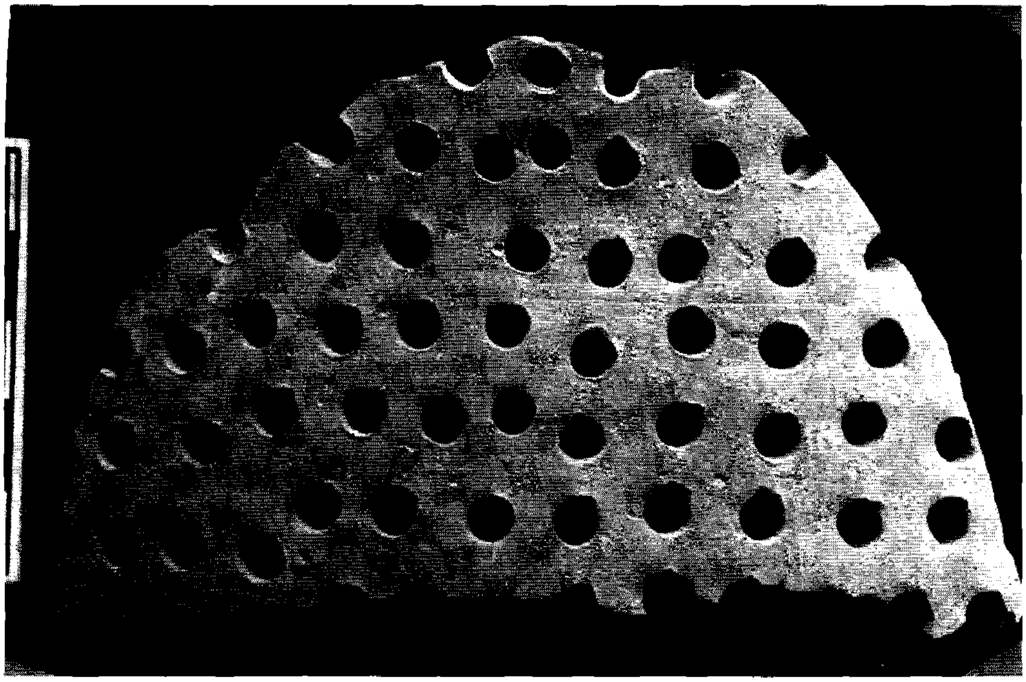


Plate 79 Sutkagen Dor, Sherd not drawn

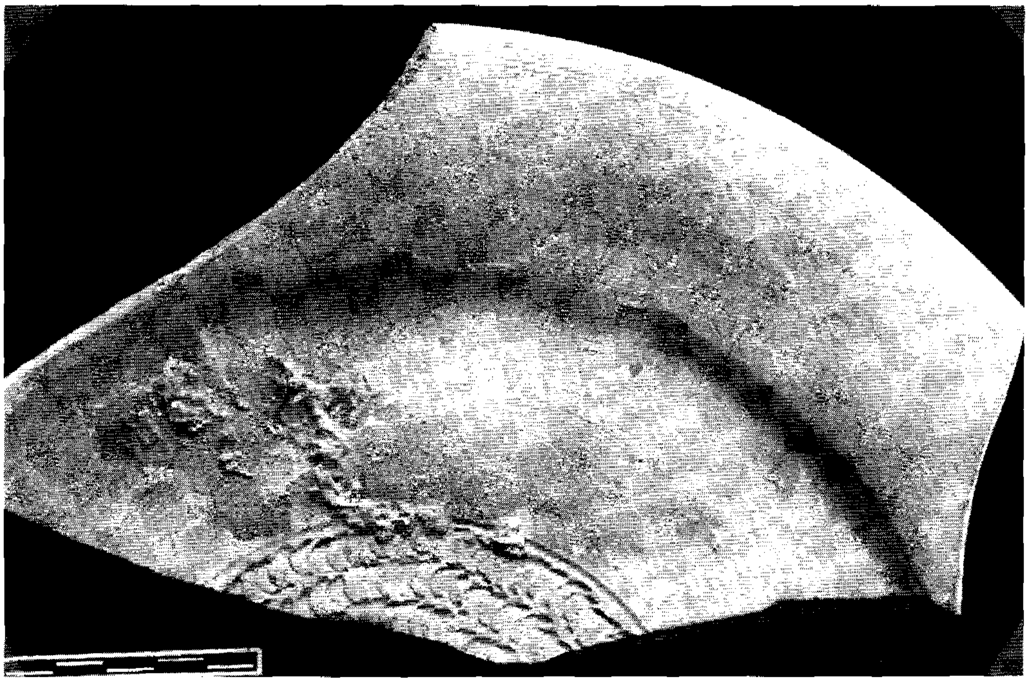


Plate 80 Sutkagen Dor, Sherd not drawn

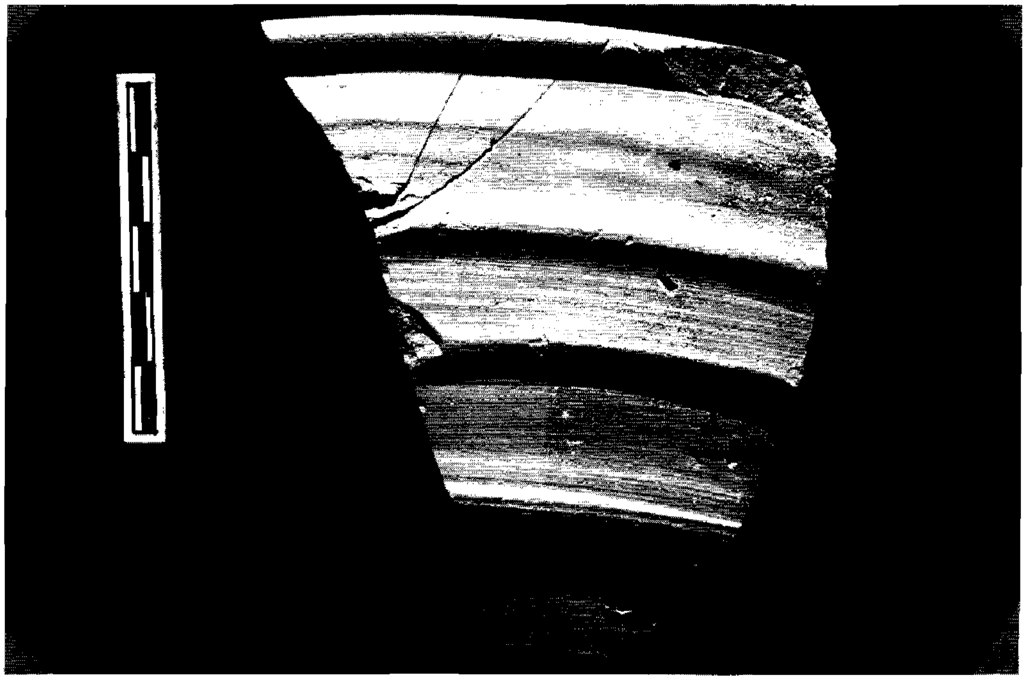


Plate 81 Sutkagen Dor, Sherd SD#75



Plate 82 Sutkagen Dor, Sherd SD#80

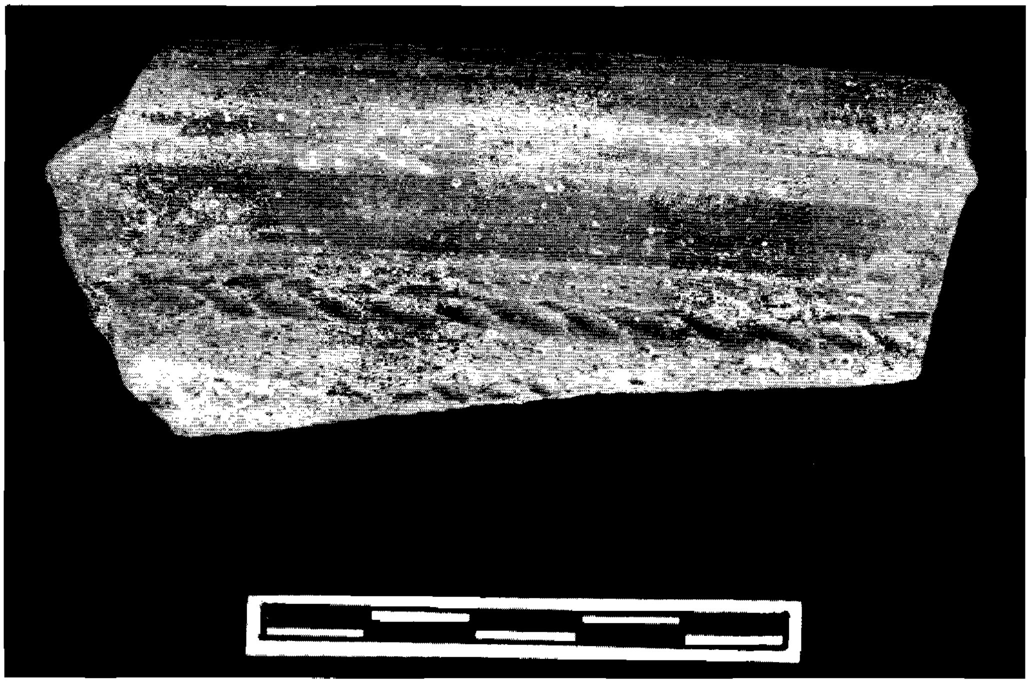


Plate 83 Sutkagen Dor, Sherd SD#48



Plate 84 Sutkagen Dor, Sherd SD#138a

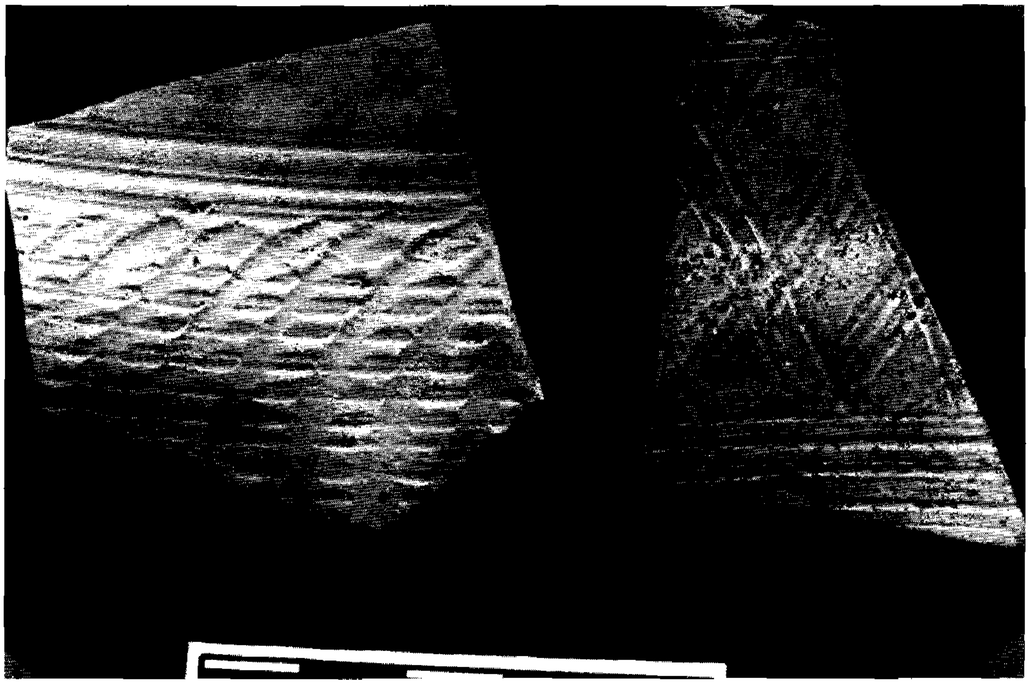


Plate 85 a. Sutkagen Dor, Sherd SD#133 b. Sutkagen Dor, Sherd SD#134

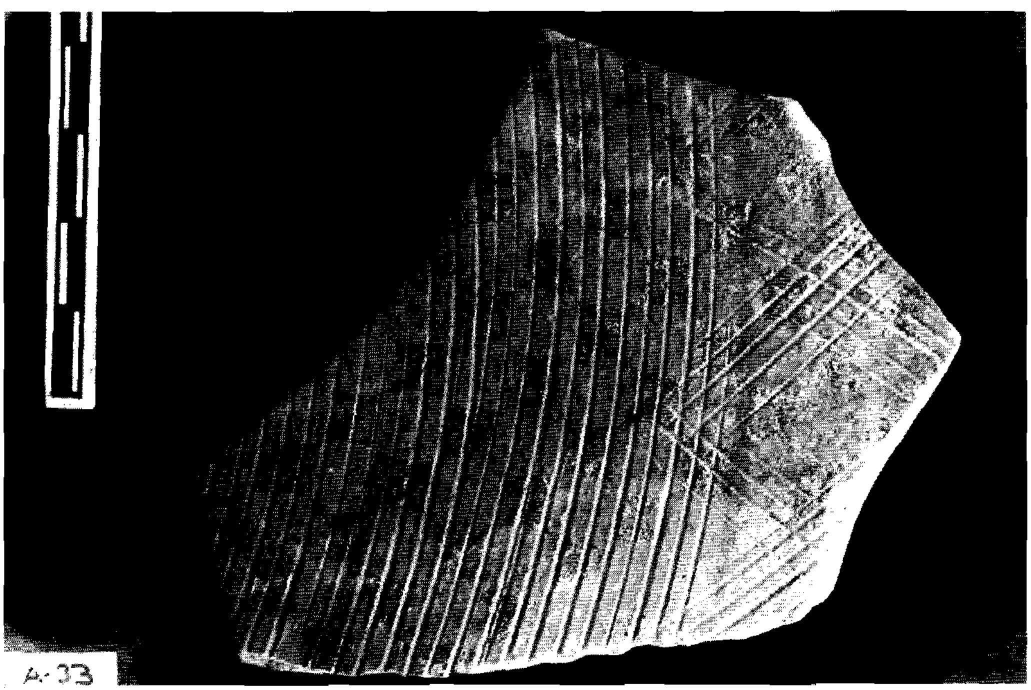


Plate 86 Sutkagen Dor, Sherd SD#120

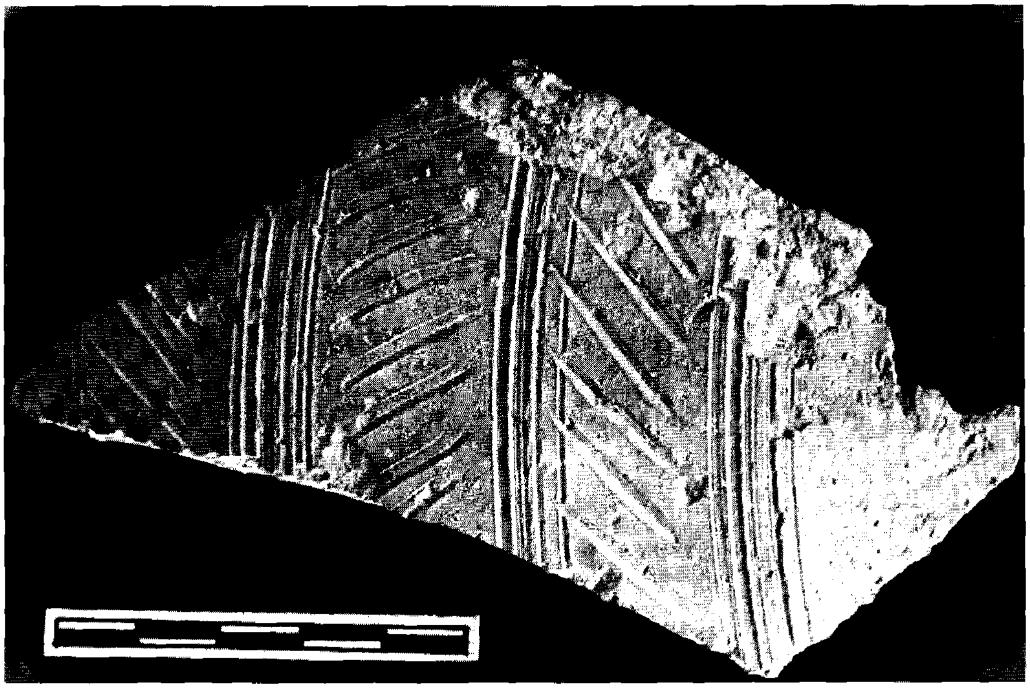


Plate 87 Sutkagen Dor, Sherd SD#121

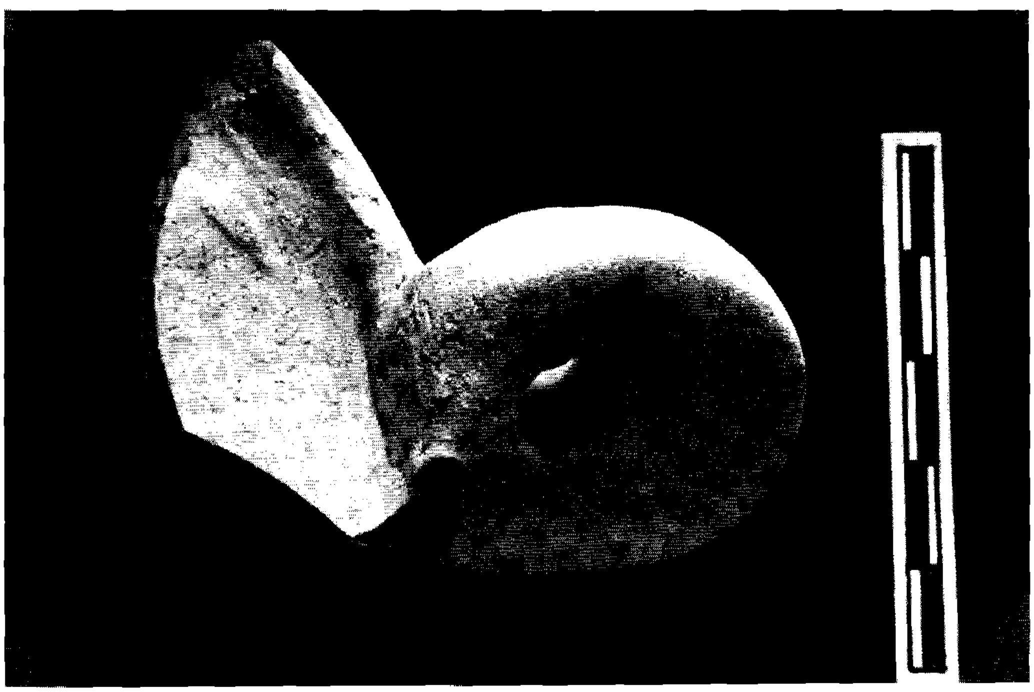


Plate 88 Sutkagen Dor, Sherd SD#115

SOTKA KOH POTTERY

Our discovery of Sotka Koh was described above in Part I of this report. We unfortunately had neither the time nor resources to make a proper investigation of the site. However, the geographical location of the site, its confirmation, and the masses of Harappan pottery on the surface made it clear that this was a site comparable in size and function to that of Sutkagen Dor. A collection of sixty-eight pottery sherds was made from the surface (figures 59-68; plates 89-96; tables 10 and 11). In spite of the deplorable condition of the site itself, the surface sherds were in a better state of preservation than those at Sutkagen Dor. The higher percentage of slipped and painted sherds probably results from this differential preservation. It could also reflect qualitative or preferential differences between the inhabitants of the two sites.

FIGURE 59

SOTKA KOH: CERAMICS

Figure No.	SK No.	University Museum No.	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	222			Light buff color. String-cut base.	J - Very Small, Plain Jar	MD 23c
2	227	61-33-21		Buff color. Small mica inclusions in paste.	F - Small Undecorated Jar/Pots	MD 9
3	238			Reddish color.	E - Medium, Undecorated Ledge Shouldered Pot	MD 8b
4	211	61-33-21		Possibly the base of a bird whistle. Reddish buff ware. Few inclusions. String cut base.	3 - Vessel Form Undetermined. Possible Bird Whistle	Bird Whistle
5	236			No visible inclusions. Buff color. Smoothed but not even surfaces.	F - Small Undecorated Jar/Pot	MD 9
6	237	61-33-21		Reddish ware. Possible buff slip.	1 - Miscellaneous Jar/Pot	See MD figure 15.6.
7	196		89	Large flaring bowl with external ribs. Reddish ware.	X - Shallow Ribbed Bowl with Flaring Sides	See MD figure 54.7.
8	205			Buff ware. Holes punched through from the outside.	H - Perforated Jar	MD 16
9	212			Reddish buff ware. String cut base type but bottom of base has been smoothed with incised mark.	3 - Vessel Form Undetermined	
10	217	61-33-21		Dish/Bowl on stand fragment. Cream slip on upper rounded portion. Red slip on lower section of stand.	U - Pedestalled Bowl or Dish	MD 58 b

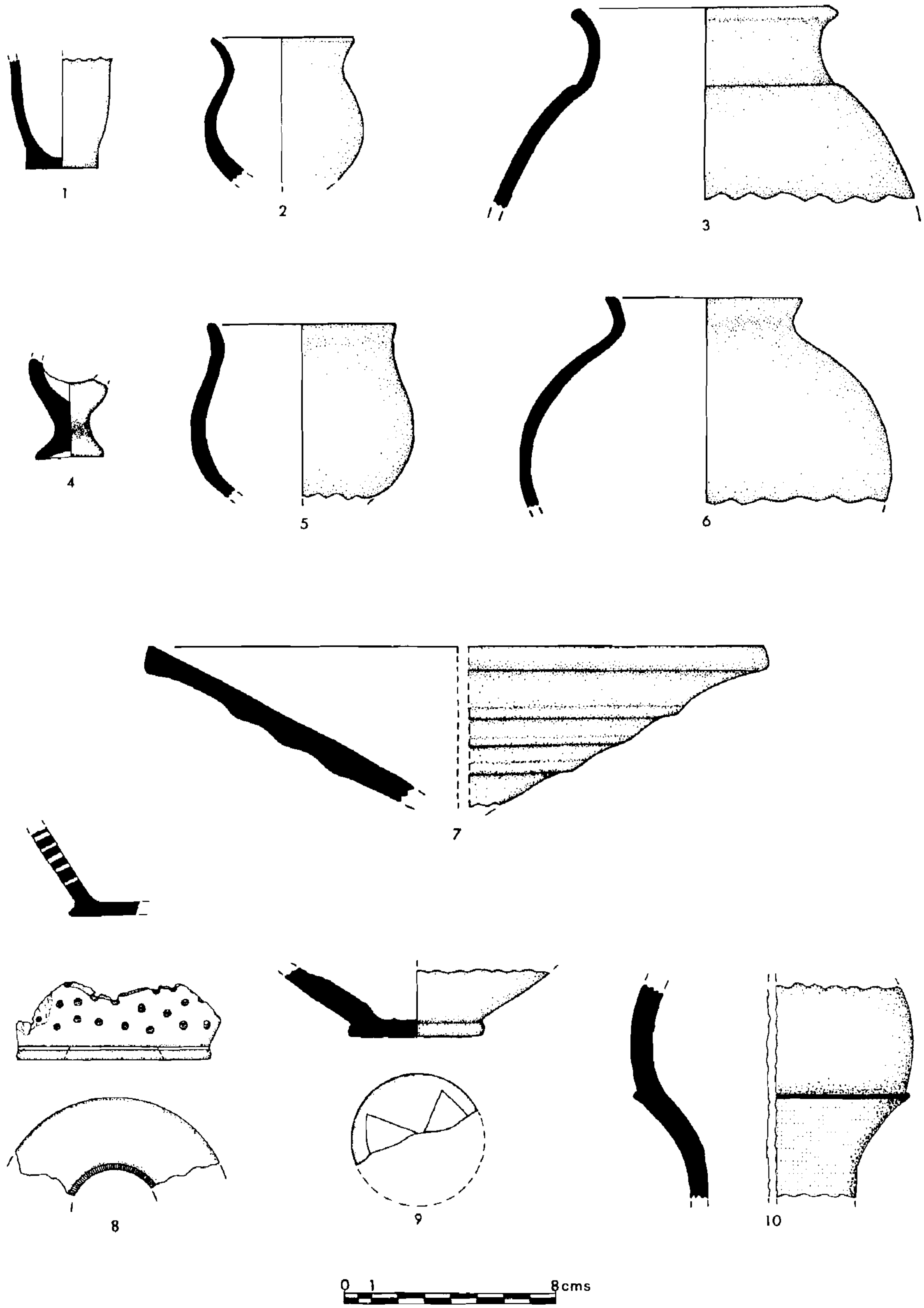

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FIGURE 60

SOTKA KOH: CERAMICS

Figure No.	SK No.	University Museum No.	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	192		91	Reddish ware with possible red slip. String impressed.	D - Large Undecorated Jar/Pot	MD 5
2	191		90b	Buff ware. Wavy, incised decoration.	D - Large Undecorated Jar/Pot	MD 5
3	193			Yellowish ware with black inclusions. Shallow wavy incised decoration.	D - Large Undecorated Jar/Pot	MD 5
4	208			Flat slab ca. 1.6 cm thick. Coarse reddish ware with chaff temper. Concentric circles made by impressing rope into soft clay.	Mb - Large, Flat Bottomed Bowl with Impressed Base or Tile Fragment.	MD 36c cf. Dales (1979b)
5	209	61-33-21	92	Flat slab 1.0 cm thick. Raised intersection circles on one side, wheel marks on the opposite. Fine paste. It is possible that this is a stamp for forming the designs on vessels such as SK 210 (figure 60.6).	Stamp or Mould	Dales (1979b)
6	210	61-33-21	93	Flat slab ca. 2 cm thick. Coarse reddish ware. Chaff temper, gritty inclusions and minute mica fragments in paste. Impressed intersecting circles. The decoration for this vessel may have been made with a stamp such as SK 209 (figure 60.5).	Mb - Large, Flat Bottomed Bowl with Impressed Base	MD 36c cf. Dales (1979b)

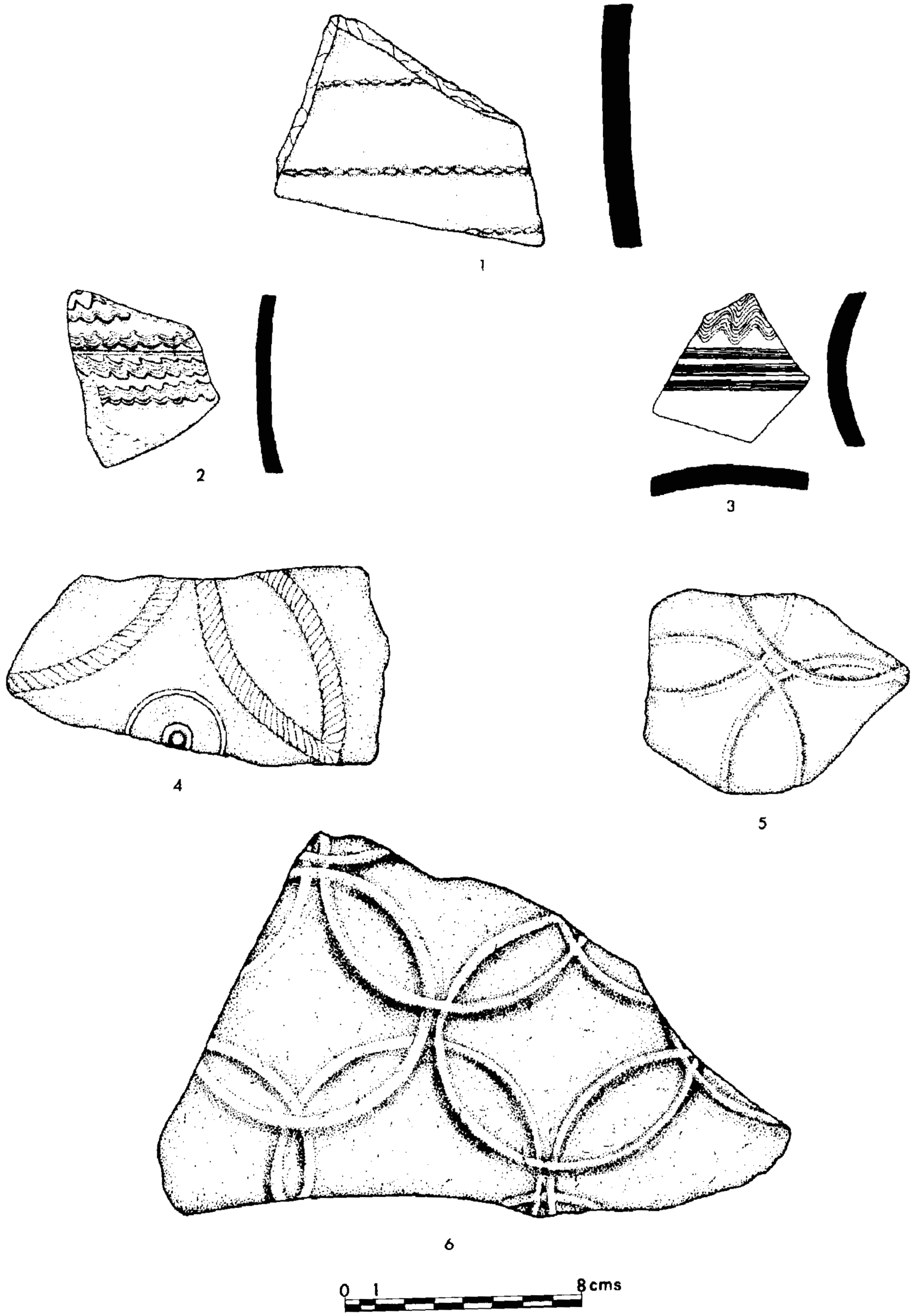

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FIGURE 61

SOTKA KOH: CERAMICS

Figure No.	SK No.	University Museum No.	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	226			Possible cream slip. Reddish ware with tiny black inclusions.	E - Medium, Undecorated Ledge Shouldered Pot.	MD 8b
2	224	61-33-21		Reddish ware with cream slip.	D - Medium Undecorated Globular Jar/Pot	MD 5
3	240	61-33-21		Reddish buff ware. Very small grit inclusions.	D - Medium Undecorated Globular Jar/Pot	MD 5
4	221			Buff ware. Fine grit inclusions.	Lb - Large Convex Sided Jar/Pot *Note* Unusual as it is undecorated.	MD 32
5	225			Dark reddish ware. Smooth surfaces but now weathered.	1 - Miscellaneous Jar/Pot with Triangular In-Slanted Rim	MD 35. See MD figure 9.3.
6	228			Buff ware. Straw temper, poorly fired.	1 - Miscellaneous Jar/Pot	
7	232			Hand formed vessel. Straw temper. Areas of vitrification. Similar to SK 228 (figure 61.6).	1 - Miscellaneous Jar/Pot	

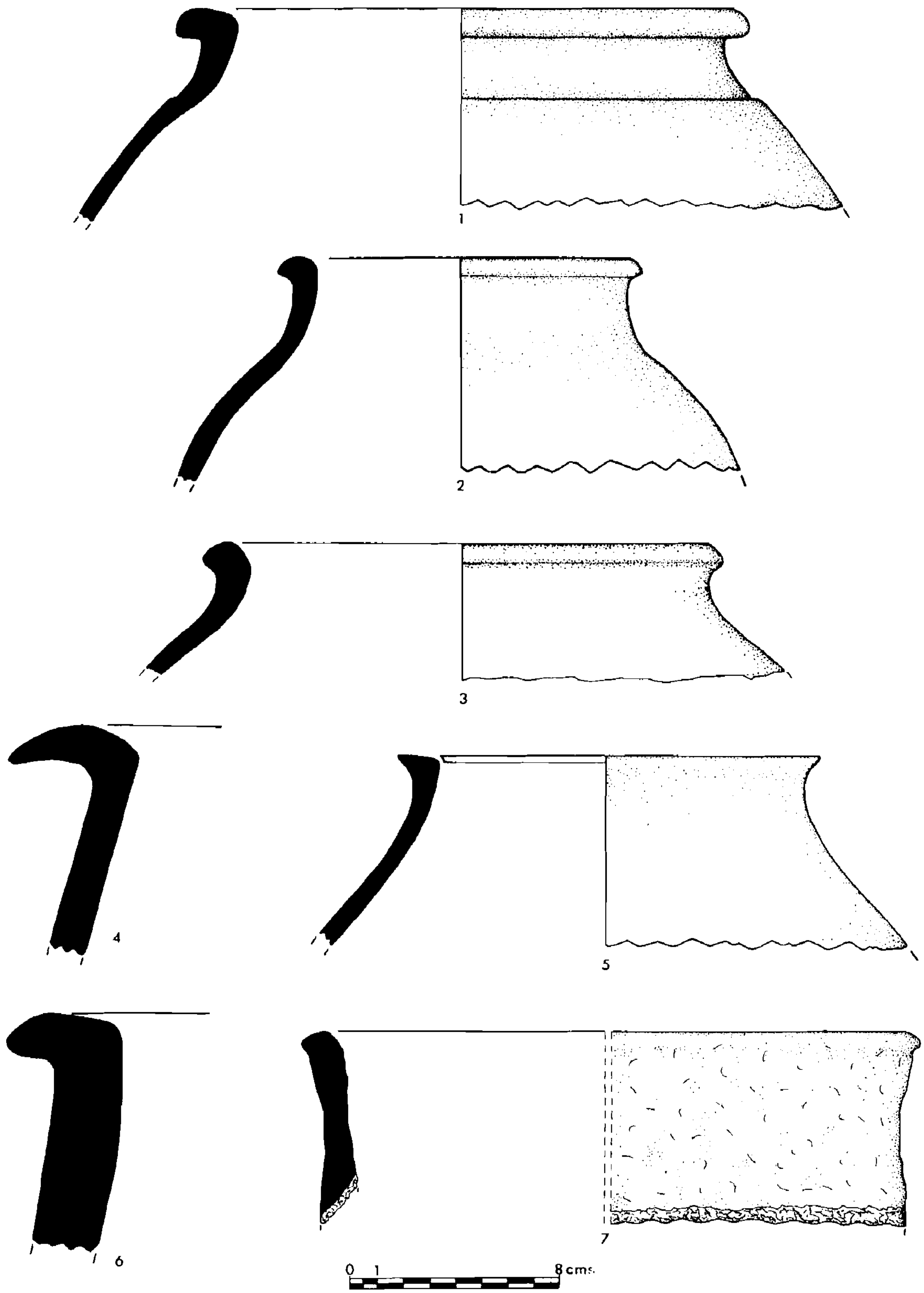
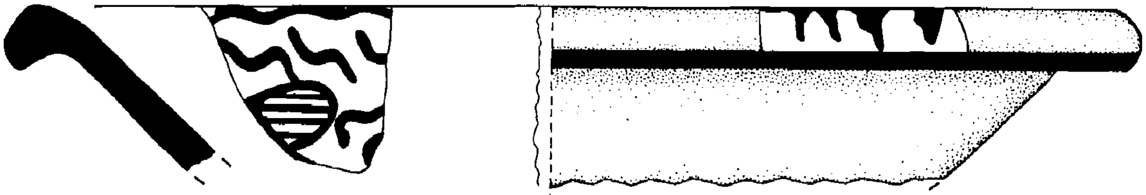

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FIGURE 62

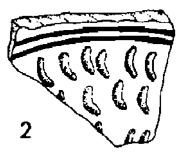
SOTKA KOH: CERAMICS

Figure No.	SK No.	University Museum No.	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	174			Reddish ware. Possible cream slip. Black painted design. Smoothed painting on interior.	U - Pedestalled Dish/Bowl	MD 58a, b
2	201	61-33-21		Reddish buff ware. Traces of red slip on underside. Thumb nail impressions on underside.	U - Pedestalled Dish/Bowl.	MD 57, 58
3	202	61-33-21		Dark reddish ware. Incised line with semi-circular impressions.	U - Pedestalled Dish/Bowl	MD 57, 58
4	203			Reddish buff ware. Red slip underside. Incised semi-circular impressions.	U - Pedestalled Dish/Bowl	MD 57, 58
5	176			Black painted designs.	U - Pedestalled Dish/Bowl	MD 57a, b
6	204			Reddish buff ware. Red slip on underside. Incised wide grooves in concentric circles.	U - Pedestalled Dish/Bowl	MD 58a, b
7	200			Reddish ware. Incised design in a circular pattern.	U - Pedestalled Dish/Bowl	MD 57a, b

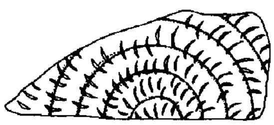


1

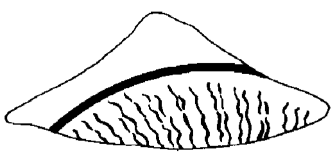
SCALE 3/4



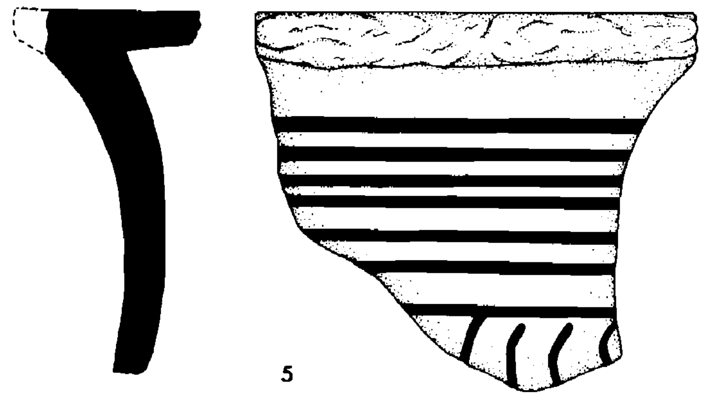
2



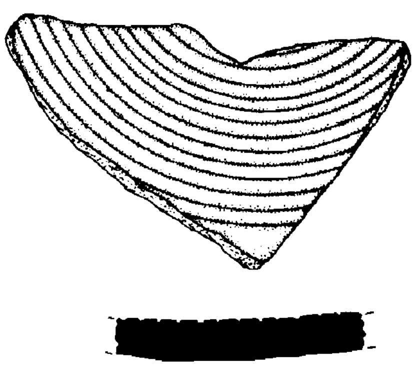
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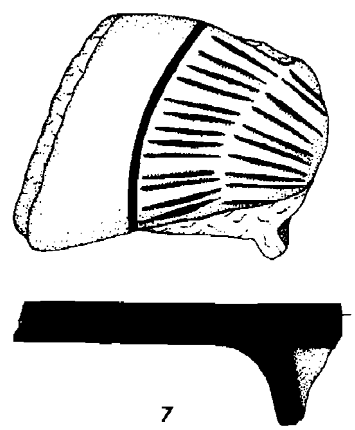
4



5



6



7

0 1 8 cms

FIGURE 63

SOTKA KOH: CERAMICS

Figure No.	SK No.	University Museum No.	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	220			Reddish buff ware. Red slip. Concentrically incised lines surrounding impressed design.	U - Pedestalled Dish	MD 58a, b
2	182	61-33-21		Reddish buff ware. Red slip. Black painted design.	U - Pedestalled Bowl	MD 57a, b
3	183	61-33-21		Reddish buff ware. Red slip. Black painted concentric circle design.	U - Pedestalled Dish	MD 58a, b

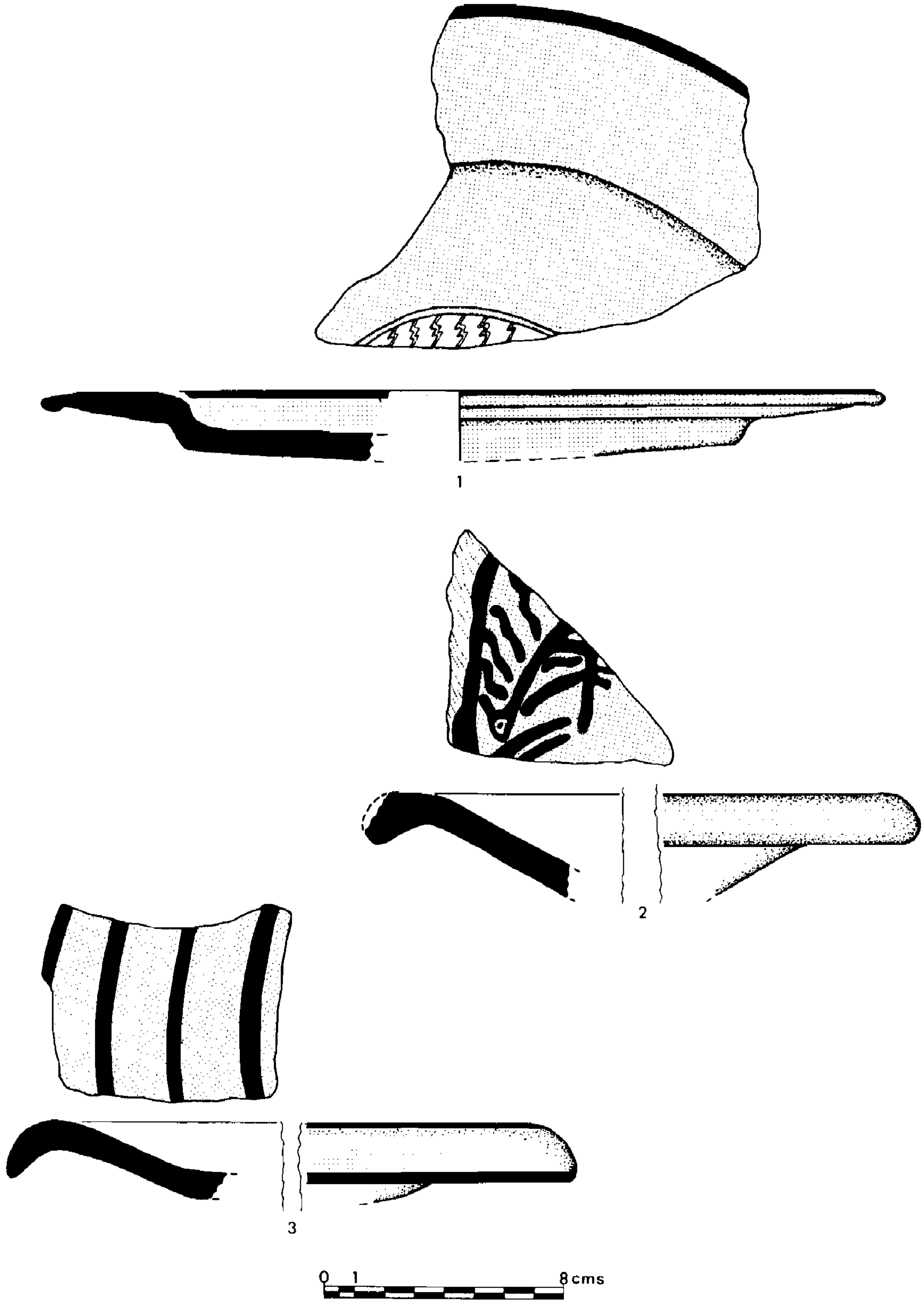
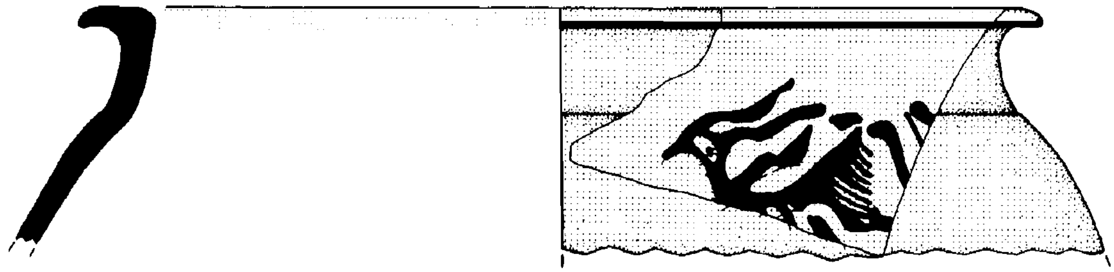
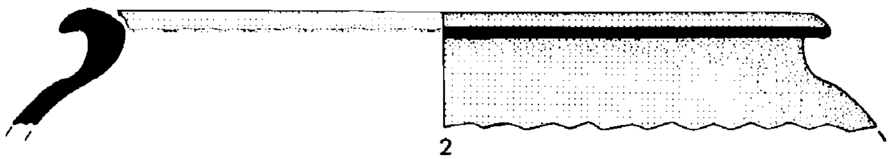

1
2
3
0 1 8cms

FIGURE 64

SOTKA KOH: CERAMICS

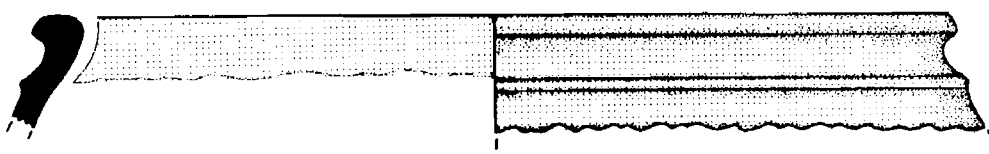
Figure No.	SK No.	University Museum No.	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	175			Reddish ware. Red slip. Black painted design.	B - Large Decorated Jar/Pot	MD 2
2	229	61-33-21		Reddish ware slip. Black painted ban on outside edge of rim.	B - Large Decorated Jar/Pot	MD 2
3	243			Reddish ware. Red slip.	1 - Miscellaneous Jar/Pot with Ridged Neck	MD 35. See also MD figure 43.1 - 6.
4	242			Reddish ware. Buff slip.	1 - Miscellaneous Jar/Pot	
5	244			Reddish ware.	1 - Miscellaneous Jar/Pot	

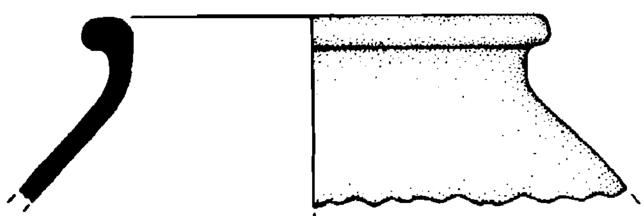

1

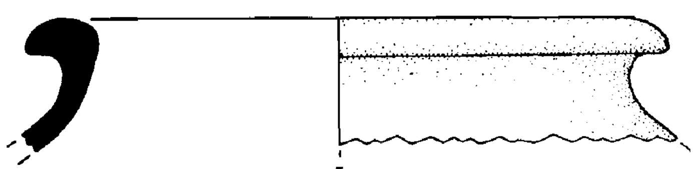

2

SCALE 1:2




3


4


5

SCALE ¾

FIGURE 65

SOTKA KOH: CERAMICS

Figure No.	SK No.	University Museum No.	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	231			Reddish ware.	R - Small, Plain Dish/Bowl	MD 52, 53
2	230	61-33-21		Dark red ware. Possible cream slip.	P - Medium Slipped and Painted Dish/Bowl or Q - Large Dish with Complex Rim	MD 41, 44, 47, 48,49, 50,or 51
3	235			Red slip. Black paint on inside rim.	P - Medium Slipped and Painted Dish/Bowl or Q - Large Dish with Complex Rim	MD 41, 44, 47, 48, 49, 50,or 51
4	234			Buff ware. White grit inclusions in paste.	P - Medium Slipped and Painted Dish/Bowl or Q - Large Dish with Complex Rim	MD 41, 44, 47, 48, 49, 50,or 51
5	233			Dark reddish ware. Cream slip. Small grit inclusions in paste.	P - Medium Slipped and Painted Dish/Bowl or Q - Large Dish with Complex Rim	MD 41, 44, 47, 48, 49, 50,or 51
6	245			Dark reddish ware. Badly weathered surface.	P - Medium Slipped and Painted Dish/Bowl or Q - Large Dish with Complex Rim	MD 41, 44, 47, 48, 49, 50,or 51
7	239	61-33-21		Reddish ware. Red slip.	P - Medium Slipped and Painted Dish/Bowl or Q - Large Dish with Complex Rim	MD 41, 44, 47, 48, 49, 50,or 51

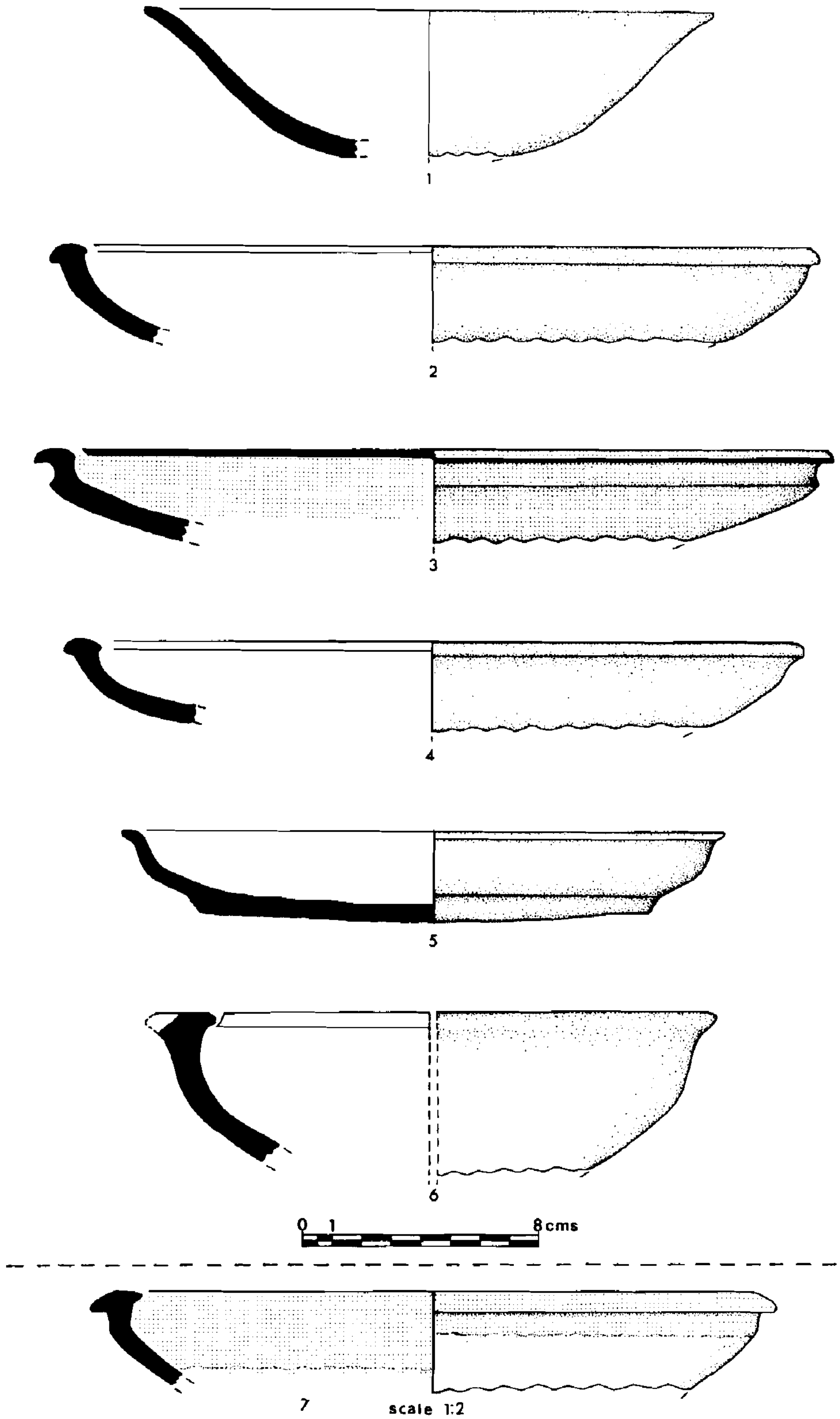

1
2
3
4
5
6
0 1 8 cms
7
scale 1:2

FIGURE 66

SOTKA KOH: CERAMICS

Figure No.	SK No.	University Museum No.	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	190		95	Dark red ware. Black painted design.	3 - Vessel Form Unknown Possibly A - Large Decorated Jar or B - Large Decorated Jar/Pot	Decorated Sherd. Possibly MD 1 or MD 2.
2	181			Reddish ware. Black painted design.	3 - Vessel Form Unknown Possibly A - Large Decorated Jar or B - Large Decorated Jar/Pot	Decorated Sherd. Possibly MD 1 or MD 2.
3	177			Red slip. Black painted design.	3 - Vessel Form Unknown Possibly A - Large Decorated Jar or B - Large Decorated Jar/Pot	Decorated Sherd. Possibly MD 1 or MD 2.
4	188			Dark red ware. Black painted design.	3 - Vessel Form Unknown Possibly A - Large Decorated Jar or B - Large Decorated Jar/Pot	Decorated Sherd. Possibly MD 1 or MD 2.
5	187			Reddish ware. Black painted design. Tiny black inclusions in paste.	3 - Vessel Form Unknown Possibly A - Large Decorated Jar or B - Large Decorated Jar/Pot	Decorated Sherd. Possibly MD 1 or MD 2.
6	171	61-33-21		Reddish ware. Cream slip. Black painted designs. Tiny black inclusions in paste.	3 - Vessel Form Unknown Possibly A - Large Decorated Jar or B - Large Decorated Jar/Pot	Decorated Sherd. Possibly MD 1 or MD 2.
7	197	61-33-21	90a	Brownish, coarse ware. Decoration consists of bands of impressed concave lines.	3 - Vessel Form Unknown	Possibly Basket-Marked Ware. See Fairservis (1956: 260, figure 52). This vessel occurs in Pre- or Early Harappan contexts in Baluchistan.
8	246			Reddish buff ware. Painted black design.	3 - Vessel Form Unknown Possibly A - Large Decorated Jar or B - Large Decorated Jar/Pot	Decorated Sherd. Possibly MD 1 or MD 2.
9	194	61-33-21		Reddish ware. Parallel incised lines.	Y - Medium to Small Jar/Pot with Horizontally Incised Bands	See MD figure 45.5
10	199			Poorly fired. Grey core with brownish and red exterior. Very shallow incised parallel lines.	Y - Medium to Small Jar/Pot with Horizontally Incised Bands	See MD figure 45.5
11	198			Light reddish buff ware. Creamy slip on interior and exterior. Shallow, parallel incised lines or combed exterior.	Y - Medium to Small Jar/Pot with Horizontally Incised Bands	See MD figure 45.5

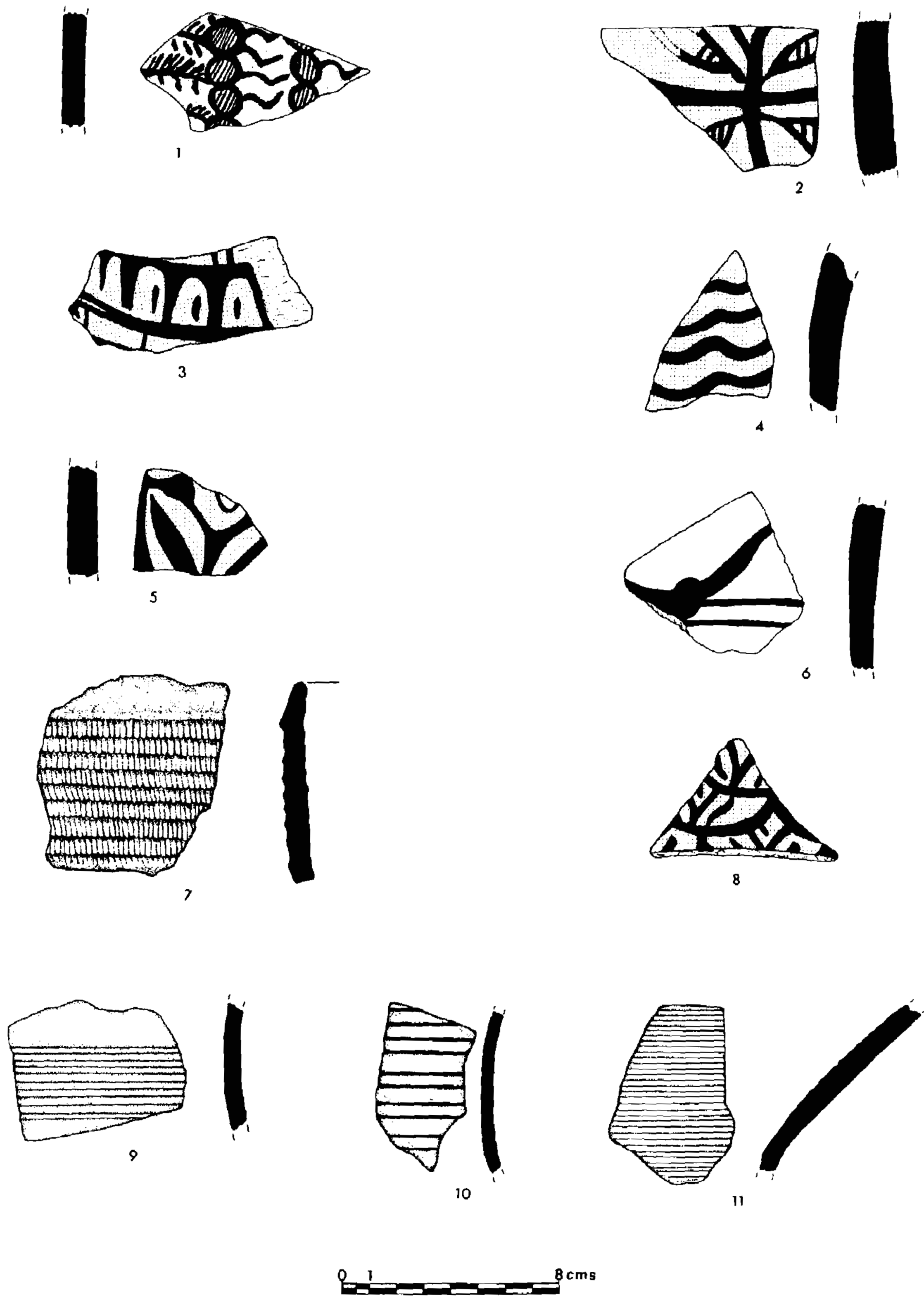

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9
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11
0 1 8cms

FIGURE 67

SOTKA KOH: CERAMICS

Figure No.	SK No.	University Museum No.	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	189			Reddish ware. Black painted design. Sun burst pattern.	3 - Vessel Form Unknown Possibly A - Large Decorated Jar or B - Large Decorated Jar/Pot	Decorated Sherd. Possibly MD 1 or MD 2.
2	178	61-33-21		Reddish ware. Painted black design.	3 - Vessel Form Unknown Possibly A - Large Decorated Jar	Decorated Sherd. Possibly MD 1.
3	180			Reddish ware. Red slip. Painted black design.	3 - Vessel Form Unknown Possibly A - Large Decorated Jar or B - Large Decorated Jar/Pot	Decorated Sherd. Possibly MD 1 or MD 2.
4	173			Reddish ware. Red slip on upper portion of vessel. Painted black design.	3 - Vessel Form Unknown Possibly B - Large Decorated Jar/Pot	Decorated Sherd. Possibly MD 2.
5	247			Reddish ware. Red slip. Painted black design.	3 - Vessel Form Unknown Possibly A - Large Decorated Jar	Decorated Sherd. Possibly MD 1.
6	179	61-33-21	96	Reddish ware. Painted black design.	3 - Vessel Form Unknown Possibly A - Large Decorated Jar or B - Large Decorated Jar/Pot	Decorated Sherd. Possibly MD 1 or MD 2.


1
2
3
4
5
6
0 1 8 cms

FIGURE 68

SOTKA KOH: CERAMICS

Figure No.	SK No.	University Museum No.	Plate No.	Comments	Vessel Type	Mohenjo Daro Vessel Number
1	185	61-33-21		Heavy reddish buff ware. Grey core. Concentric black painted circles.	U - Pedestalled Bowl/Dish	MD 57a, b
2	184	61-33-21		Reddish ware. Red slip. Painted black design.	A - Large Decorated Jar	MD 1
3	186	61-33-21		Reddish ware. Painted black design.	U - Pedestalled Bowl/Dish	MD 57a, b
4	170	61-33-21		Reddish ware. Red slip. Painted black design.	3 - Vessel Form Unknown. Possibly A - Large Decorated Jar	Decorated Sherd. Possibly MD 1.
5	248	61-33-21		Reddish ware. Very thick walled. Painted black design.	3 - Vessel Form Unknown Possibly B - Large Decorated Jar/Pot	Decorated Sherd. Possibly MD 2.
6	172		94	Reddish ware. Painted black design.	3 - Vessel Form Unknown Possibly A - Large Decorated Jar	Decorated Sherd. Possibly MD 1.

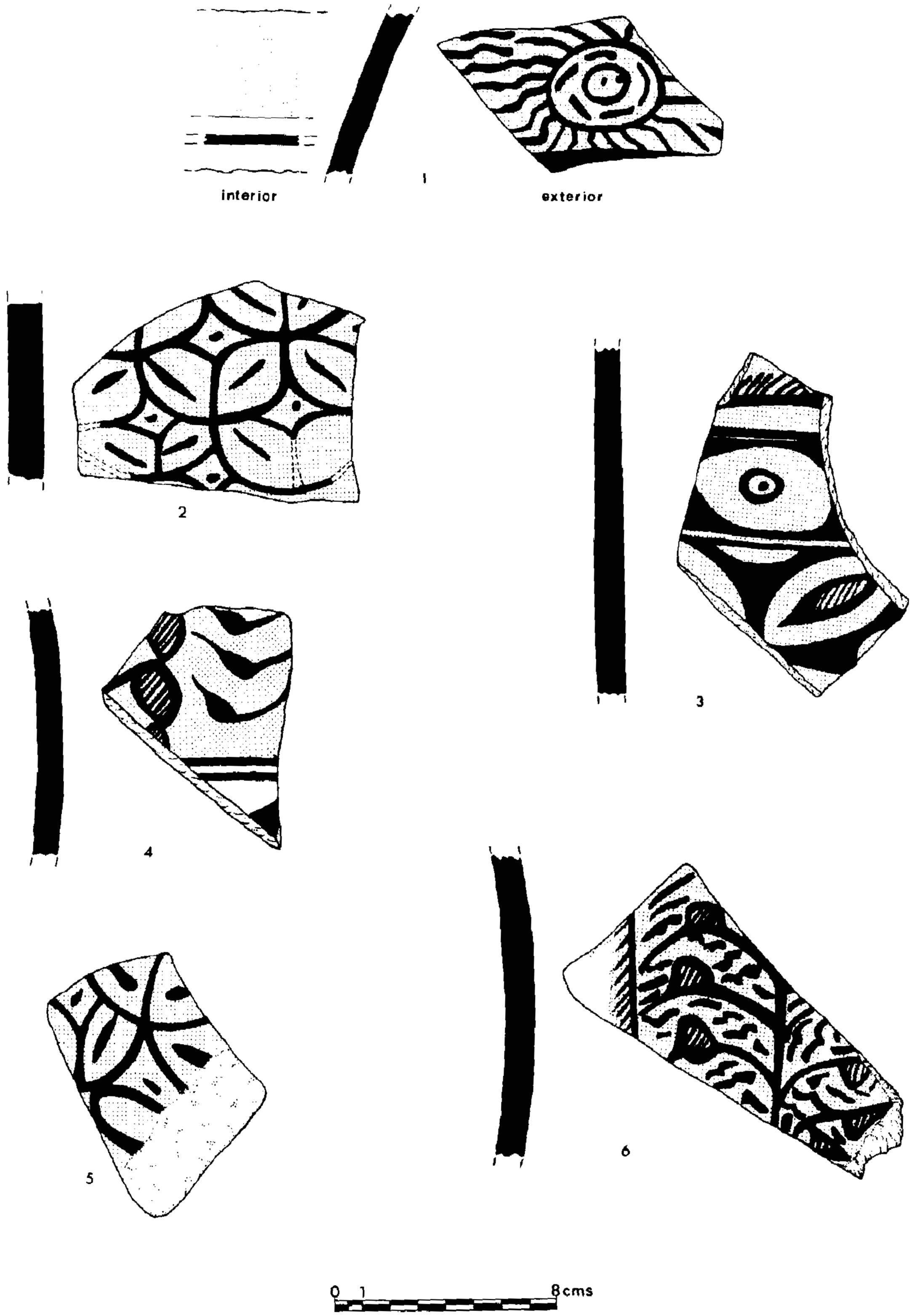

interior
1
exterior
2
3
4
5
6
0 1 8cms

Table 10 Vessel Type Distribution - Sotka Koh

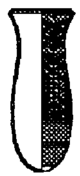
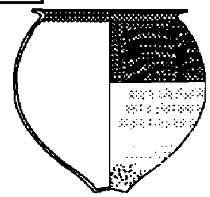
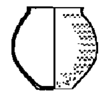
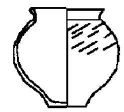
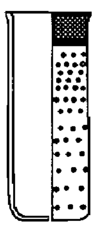
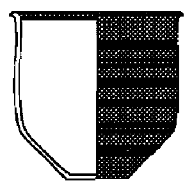
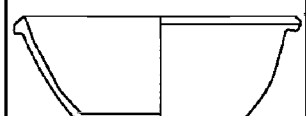
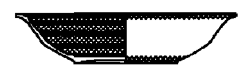
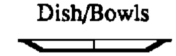
	SK#184 (Fig. 68.2)	SK#175 (Fig. 62.1) SK#229 (Fig. 62.2)	SK#192 (Fig. 60.1) SK#191 (Fig. 60.2) SK#193 (Fig. 60.3) SK#224 (Fig. 61.2) SK#240 (Fig. 61.3)	SK#238 (Fig. 59.3) SK#226 (Fig. 61.1)	SK#236 (Fig. 59.5) SK#227 (Fig. 59.2)
MD VESSEL	Total 1 A  Large Decorated Jars	Total 2 B  Very Large, Decorated Jar/Pots	Total 5 D  Medium and Large Undecorated Globular Jar/Pots	Total 2 E  Medium, Undecorated Ledge-Shouldered Pots	Total 2 F  Small, Decorated or Solid Slipped Jar/Pots
	MD 1	MD 2	MD 5	MD 8b	MD 9, 10
	SK#205 (Fig. 59.8)	SK#222 (Fig. 59.1)	SK#221 (Fig. 61.4)	SK#208 (Fig. 60.4) SK#210 (Fig. 60.6)	SK#230 (Fig. 65.2) SK#235 (Fig. 65.3) SK#234 (Fig. 65.4) SK#233 (Fig. 65.5) SK#245 (Fig. 65.6) SK#239 (Fig. 65.7)
MD VESSEL	Total 1 H  Perforated Jars	Total 1 J  Very Small, Plain Jars	Total 1 Lb  Large, Decorated Jar/Pots b - Concave Sided	Total 2 Mb  Large, Flat-Bottomed Bowls b - Large Size, Impressed Base	Total 6 P/Q  Large and Medium Slipped and Painted Dish/Bowls  Large Dishes
	MD 16	MD 23	MD 32	MD 36c	MD 41, 44, 47- 49, 40, 51

Table 11 Vessel Type Distribution - Sotka Koh

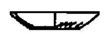
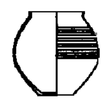
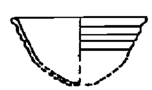
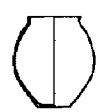
MD VESSEL	SK#231 (Fig. 65.1)	SK#194 (Fig. 66.9) SK#199 (Fig. 66.10) SK#198 (Fig. 6611)	SK#217 (Fig. 59.10) SK#174 (Fig. 62.1) SK#201 (Fig. 62.2) SK#202 (Fig. 62.3) SK#203 (Fig. 62.4) SK#176 (Fig. 62.5) SK#204 (Fig. 62.6) SK#200 (Fig. 62.7) SK#185 (Fig. 68.1) SK#186 (Fig. 68.3) SK#220 (Fig. 63.1) SK#182 (Fig. 63.2) SK#183 (Fig. 63.3)	SK#211 (Fig. 59.4) SK#212 (Fig. 59.9) SK#225 (Fig. 61.5) SK#228 (Fig. 61.6) SK#232 (Fig. 61.7) SK#243 (Fig. 64.3) SK#242 (Fig. 64.4) SK#244 (Fig. 64.5) SK#190 (Fig. 66.1) SK#181 (Fig. 66.2) SK#177 (Fig. 66.3) SK#188 (Fig. 66.4) SK#187 (Fig. 66.5) SK#171 (Fig. 66.6) SK#197 (Fig. 66.7) SK#246 (Fig. 66.8) SK#189 (Fig. 67.1) SK#178 (Fig. 67.2) SK#180 (Fig. 67.3) SK#173 (Fig. 67.4) SK#247 (Fig. 67.5) SK#179 (Fig. 67.6) SK#170 (Fig. 68.4) SK#248 (Fig. 68.5) SK#172 (Fig. 68.6)
	Total 1 R  Small, Plain Dish/Bowls	Total 3 Y  Medium to Small Jar/Pots with Horizontally Incised Bands		
	MD 52, 53	See MD Figure 45.5		
MD VESSEL	SK#196 (Fig. 59.7)	SK#237 (Fig. 59.6) SK#225 (Fig. 61.5) SK#228 (Fig. 61.6) SK#232 (Fig. 61.7) SK#243 (Fig. 64.3) SK#242 (Fig. 64.4) SK#244 (Fig. 64.5)		
	Total 1 X  Shallow-Ribbed, Flaring-Sided Bowls	Total 7 1  Miscellaneous Jars/Pots	Total 13 U  Pedestalled Bowls and Dishes	Total 25 3 ? Vessel Form Undetermined
	See MD Figure 57.4		MD 43, 57, 58	



Plate 89 Sotka Koh, Sherd SK#195

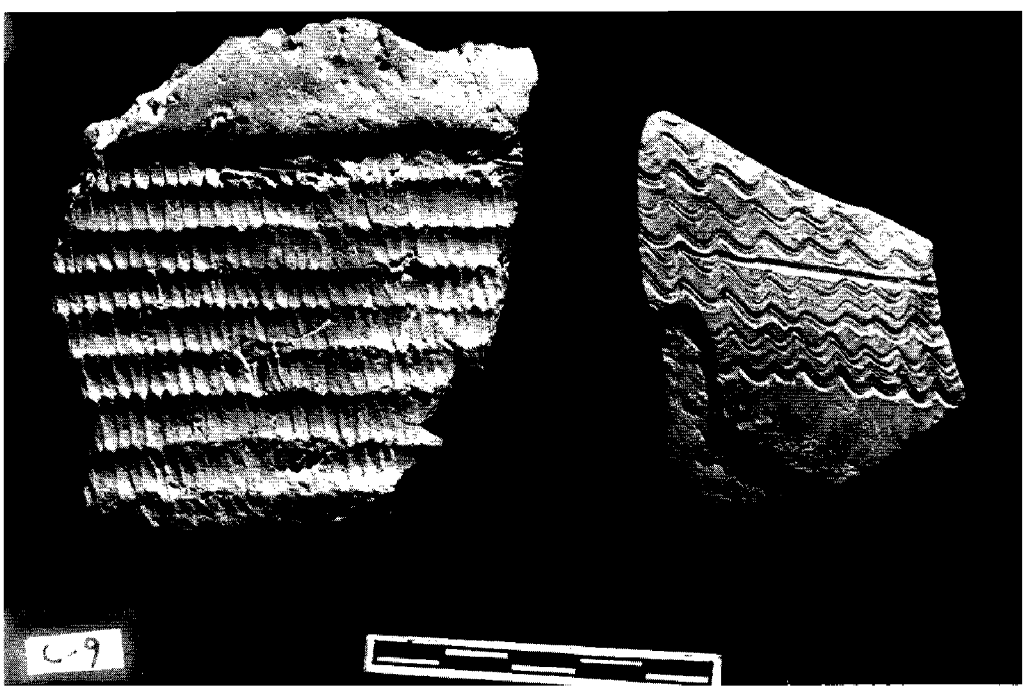


Plate 90 a. Sotka Koh, Sherd SK#197 b. Sotka Koh, Sherd SK#191

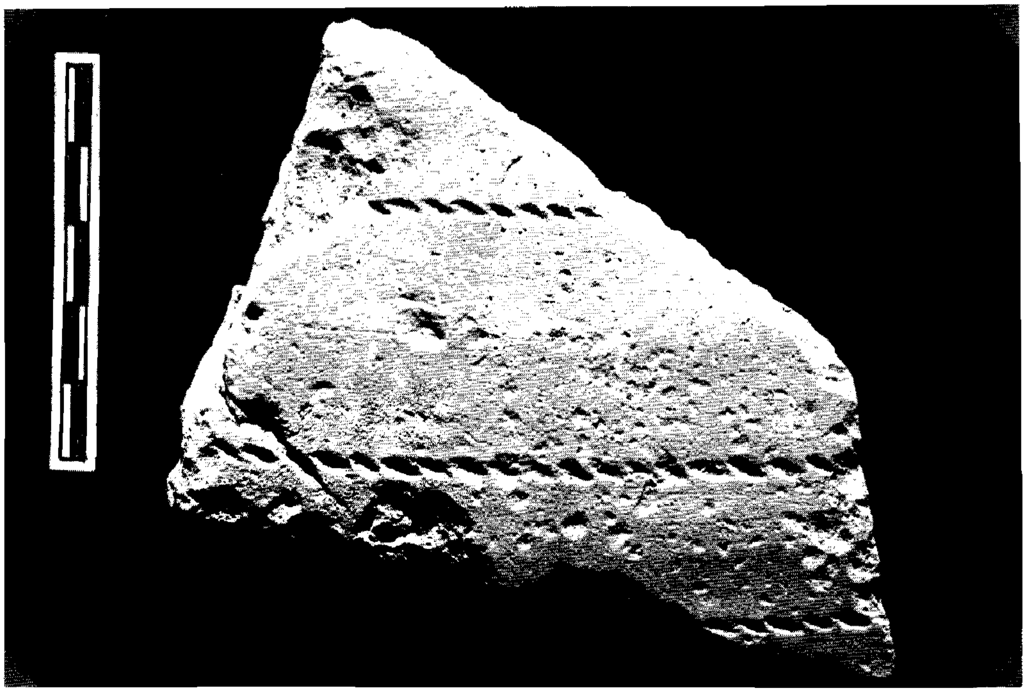


Plate 91 **Sotka Koh, Sherd SK#192**

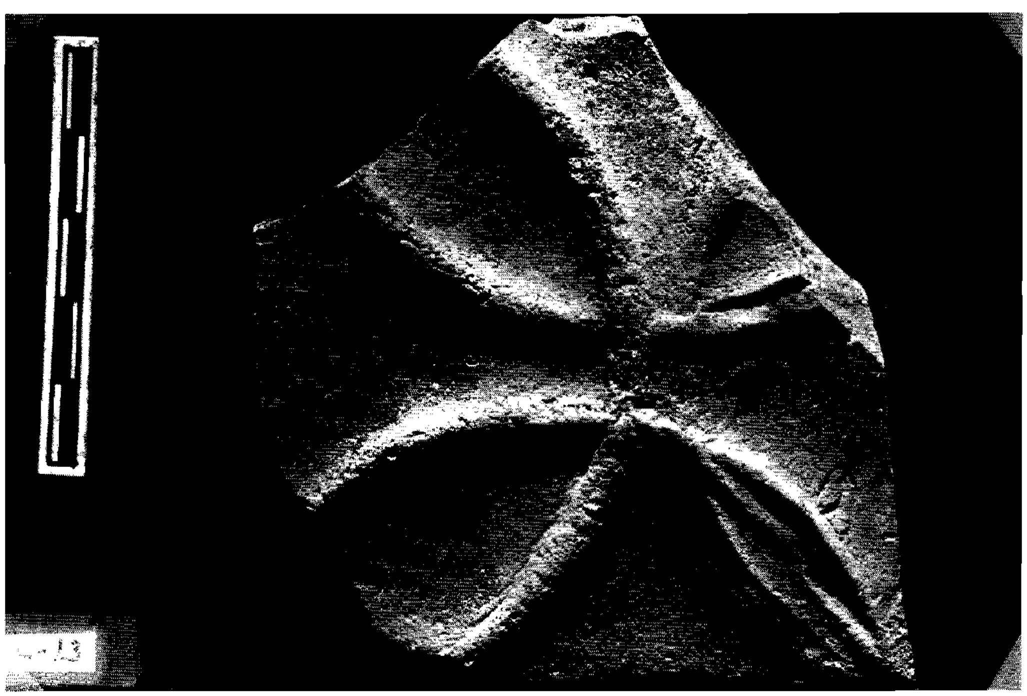


Plate 92 **Sotka Koh, Sherd SK#209**

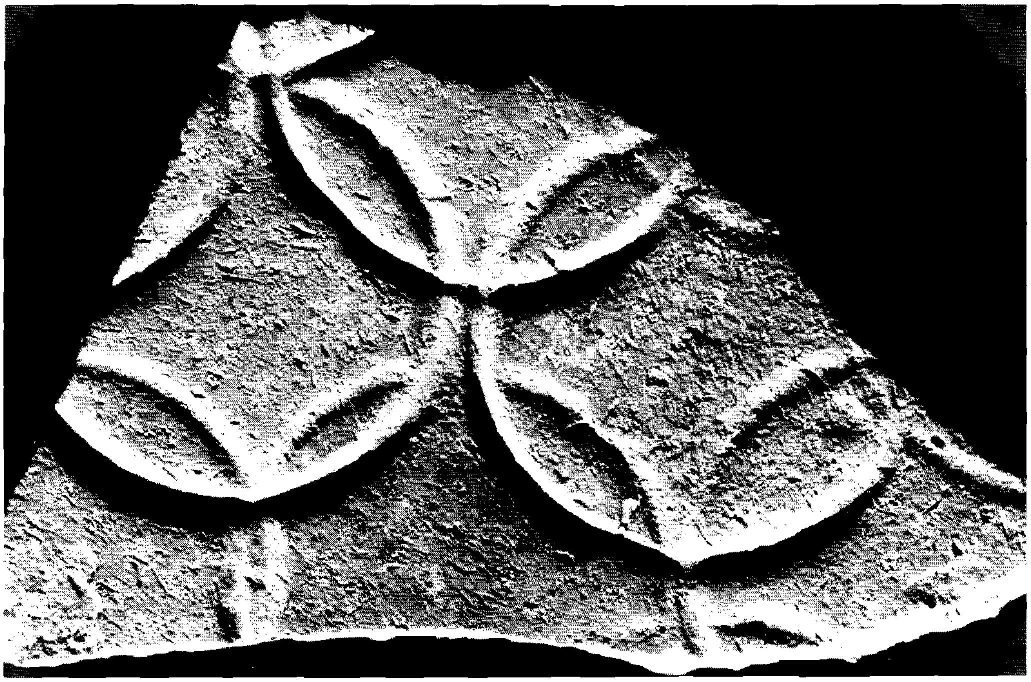


Plate 93 **Sotka Koh, Sherd SK#210**



Plate 94 **Sotka Koh, Sherd SK#172**

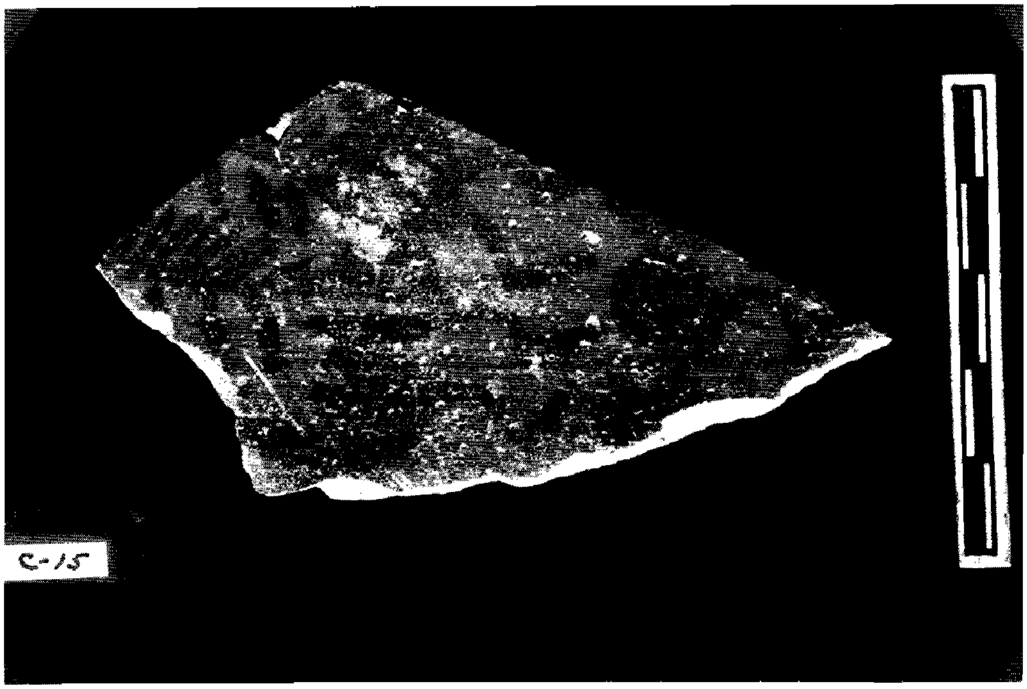


Plate 95 **Sotka Koh, Sherd SK#190**

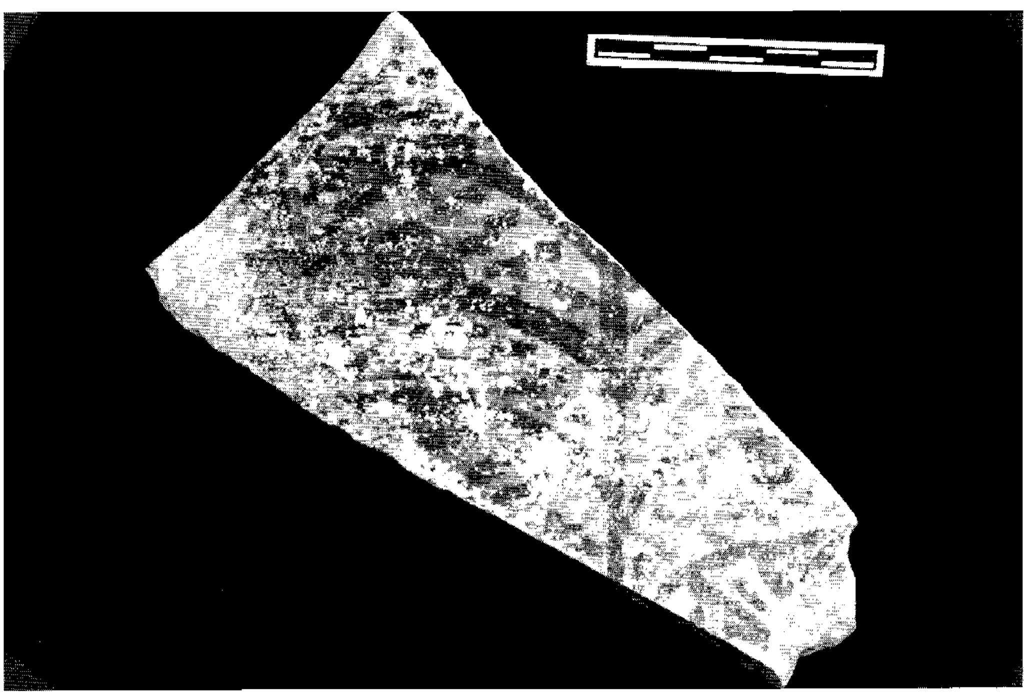


Plate 96 **Sotka Koh, Sherd SK#179**

EPILOGUE

At the time of our Makran survey, excavations were being carried out in Gujurat (India) at the Harappan site of Lothal (Rao 1979, 1985). The physical location of the site and the presence of what he considered to be a formal dockyard prompted Rao to conclude that Lothal was a major seaport. Furthermore, because of the discovery there of a Persian Gulf-style stamp seal of "painted pottery of Sumerian origin" (Rao 1979:23) and a few other artifacts said to have stylistic affinities with the Near East, he stressed the importance of Harappan seafaring activities with the Near East and the key role of Lothal in such activities. Also, Rao pointed out the significance of our findings along the Makran coast at Sutkagen Dor and Sotka Koh in identifying other coastal sites involved in the international seafaring activities of the Harappans.

At the time I could not have been more enthusiastic about such an interpretation. Admittedly the archaeological evidence of trade goods themselves was miniscule, but the presence of three coastal sites whetted the appetite for continuing the search for other Harappan sites along the Indian and Pakistan coasts and in the regions surrounding the Gulf. Personally, this interest culminated in my archaeological project at the small Harappan site of Balakot on the eastern side of Sonmiani Bay, from 1973-1976 (Dales 1974, 1979a, 1979b, 1981). The project spawned some fascinating and important new lines of research. The totally unexpected discovery made on the first season's test trench of a lengthy pre- or early Indus occupation—provisionally called Balakotian—provided an excellent opportunity to conduct comparative studies between two distinct cultural periods on such subjects as technology, environmental exploitation (botanical and faunal), and decorative/artistic expressions.

A doctoral dissertation was written on the paleobotany of the Balakot-Sonmiani Bay region (McKean 1983); significant studies were made of the physical environment, especially the relationship of the site to the ancient coastline and to climatic conditions (Snead and Erickson 1977); and paleozoological studies have identified a drastic shift from terrestrial exploitation of animals during the Balakotian period to marine exploitation during the Harappan period (Meadow 1979, 1986). The fish bone remains are currently under study by William Belcher at the University of Wisconsin-Madison; and an impressive shell-working industry at the site has been described and reconstructed (Dales and Kenoyer 1977; Kenoyer 1983, 1985).

As new and important as the Balakot research has proven to be, we experienced a deep disappointment in not discovering new evidence relating directly to the hypothesis of Indus-Near Eastern interactions. The Harappans at Balakot were operating a very specialized economy involving the exploitation and utilization of tidal water and coastal marine resources. But our studies show that those activities were firmly part of an intra- rather than an international commercial network.

There was only one discovery at Balakot, during the four years of excavations, that has clear southern Iran-Gulf affinities: a complete pottery jar painted with geometric patterns found in a Harappan period context (Dales 1979b: figure 11; here, figure 69). Both the vessel form and the painted designs are more similar to western vessels than to any known in Pakistani Baluchistan or the Indus Valley. Certainly one such vessel does not prove anything; it could have been brought by a Gulf fishing boat in less than a week's sail. But, at the time of its discovery, it did put another pin in

the map of archaeological artifacts that demonstrate some degree of contact between the two regions.

On the more positive side, archaeologists working in the Gulf region—especially in Bahrain, the United Arab Emirates, and Oman—are finding evidence for interactions with the Harappans: specialized pottery forms, inscriptions, shell objects, etc. The discoveries are few and far between, and some of the claims for the discovery of Harappan pottery are controversial, but there are still enough discoveries with incontrovertible Harappan affinities that the search for more substantial evidence of interconnections has become more, rather than less, intense.

Much of the Gulf research still focuses on the geographical identifications of the Sumero-Babylonian place-names Dilmun, Magan, and Meluhha. Scholarly interest in the Gulf has been described as "nothing less than phenomenal," and "Dilmunology" may soon become a recognized subdivision of ancient studies (Macadam 1990:51). There are now three scholarly journals devoted exclusively to the Gulf archaeology and history: *Arabian Archaeology and Epigraphy*, edited by Daniel T. Potts (Volume 1, 1990); *The Journal of Oman Studies* published by the Ministry of Information and Culture, Sultanate of Oman (Volume 1, 1976); and *Dilmun: Journal of the Bahrain Historical and Archaeological Society*. Three book-length studies of Bahrain have recently been published: *Life and Land Use on the Bahrain Islands: The Geoarchaeology of an Ancient Society* by Curtis E. Larsen (1983); *Bahrain through the Ages: The Archaeology* edited by H. A. al-Khalifa and M. Rice (1986); and *Dilmun: New Studies in the Archaeology and Early History of Bahrain* edited by Daniel T. Potts (1983a).

Two doctoral dissertations dealing with trade contacts between the Harappans and the Near East have been written by Indian scholars within the past decade and a half: Shashi Asthana's *History and Archaeology of India's Contacts with other Countries* (1976) and Shereen Ratnagar's *Encounters: The Westerly Trade of the Harappan Civilization* (1981). Another Indian scholar, Dilip Chakrabarti, has recently published a book entitled *The External Trade of the Indus Civilization* (1990).

Numerous papers relating to ancient trade and other interactions between the Harappans and the Near East have been delivered at the biennial international conferences of the Association of Asian Archaeologists in Western Europe which began in 1971. The papers have been published in expanded form in the proceedings of each conference. And there is a wealth of recent papers published by Danish, French, British, German, Italian, and American researchers on specific excavations and explorations in the Gulf region. In addition to these publications cited earlier in the monograph, the following are also pertinent to the questions of Harappan-Near East interactions: Cleuziou, Lombard, and Salles 1981; Dales 1977, 1982; De Cardi 1976, 1983; During-Caspers 1980, 1983a, 1983b, 1984, 1987; Frifelt 1976, 1979; Goettler, Firth, and Huston 1976; Hojlund 1987; Kohl 1975; Mughal 1983; Possehl 1977, 1986, 1990; Potts 1985, 1986b, 1986c; Shaffer 1982, 1984.

This is not the place to review or critique this new and exciting information, but the discoveries at two sites—one in the Gulf region, one in Pakistani Makran—are so pertinent to our Makran survey that they must be mentioned here. In 1985, a joint French-Italian project, called The Joint Hadd Project, began work along the eastern coast of the Oman peninsula (Cleuziou and Tosi 1986, 1988). A habitation site was discovered at Ra's al-Junayz and was identified immediately as having Harappan affinities. First, a pot sherd was found inscribed with large signs of the Indus script (Cleuziou and Tosi 1986:2). Next, sherds of one of the most diagnostic types of Harappan

pottery were found—body sherds of a pyriform jar with elaborate black designs painted on a red slip (Cleuziou and Tosi 1988:41, fig.35). Such spectacular vessels are known from most Harappan sites in both Pakistan and India (Dales and Kenoyer 1986:74-77). Also, an ivory comb of distinctive Harappan form, with inscribed concentric circle designs, was recovered (Cleuziou and Tosi 1986; fig. 22).

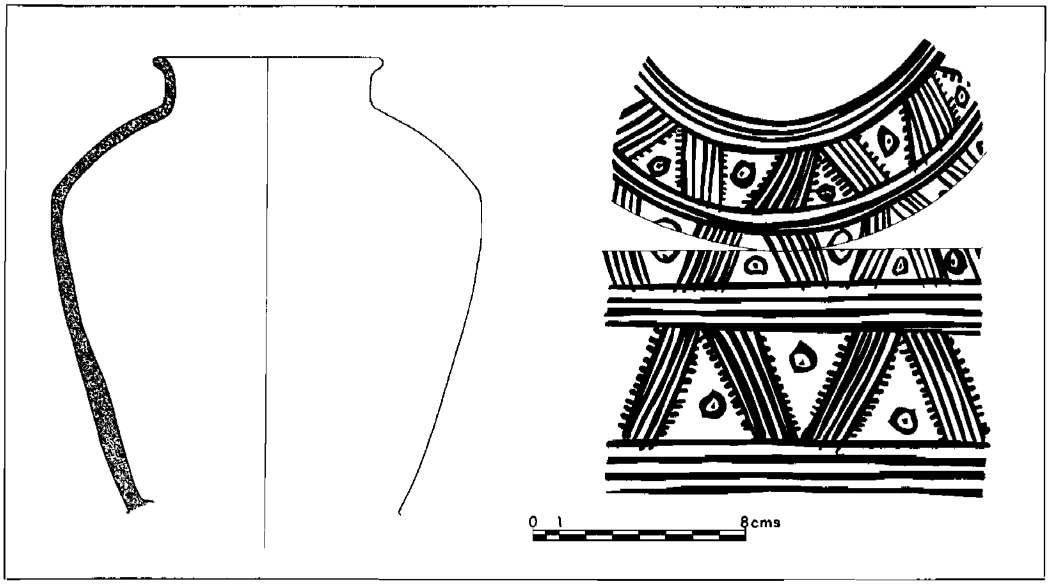


Figure 69 **Harappan period vessel found at Balakot with form and design of western affinity (reprinted from Dales 1979b: fig. 11)**

Most important potentially are perhaps the sherds of large, narrow based jars with solid black slip on both the exterior and interior surfaces (Sophie Mery in Cleuziou and Tosi 1988:42). In our study of the pottery from Mohenjo Daro (Dales and Kenoyer 1986:83-84), we suggested that these vessels might have had a storage and transport function similar to that of Roman amphora. In the Gulf region, sherds of similar vessels were noted first at Hili 8 in the United Arab Emirates (Cleuziou and Vogt 1985:249-78). They are relatively more numerous at Ra's al-Junayz where they add credibility to the hypothesis that the vessels might have had a special storage-transport function. Sophie Mery who is conducting the study of the pottery states that it is "an attractive hypothesis as Ra's al-Junayz could have been a seaport where trading-goods necessiting (sic!) large containers for their transport should have been in transit" (in Cleuziou and Tosi 1988:42). Laboratory tests are being conducted in Paris on sherds from these vessels found at Ra's al-Junayz and at sites in the lower Indus Valley to determine their places of origin.

Beyond any doubt, the most satisfying and dramatic discoveries relating to the function of the Makran in Harappan external activities are being made in Makran itself. Three surveys were conducted in Makran during 1987, 1988, and 1989 by the Italian Historical, Ecological and Archaeological Mission in Makran, under the direction of Professor Valeria Fiorani-Piacentini. A report on the archaeological aspects of the surveys has been published recently by Roland Besenval of C.N.R.S., Paris (1989) in which he gives a preliminary description of each site visited and the pottery collected from Ormara westwards along the coast to Pasni, Gwadar, and Jiwani; then up the Dasht River Valley past Sutkagen Dor, to the Kej Valley—most importantly to Miri Qalat near Turbat. He has proposed a tentative chronological framework for the sites as follows:

1. The Dasht Period

   The pottery is connected mainly with the cultural communities of southeastern Iran and the Gulf region: 3rd millennium B.C.

2. The Shahi-Tump Period

   Named basically after the ceramic assemblage collected by A. Stein at Shahi-Tump mound near Turbat: and originally dated to the 1st half of the second millennium B.C. (Stein 1931:88-103). More recent research by Besenval and Marquis (1991), however, dates the Shahi-Tump material between the second half of the 4th/first half of the 3rd millennium B.C. At present there is no evidence of connection with the Kulli or Harappan occupations in Makran.

3. The Zangian Period

   Early historical period, represented mainly by huge cemeteries of cairns, such as at Jiwani, associated with the painted pottery assemblage called "Londo Ware": 2nd century B.C. to 2nd-3rd century A.D.

4. The Islamic Period

   Beginning in the 10th-13th century.

This suggested chronological framework does not include the Harappan period specifically because Periods 1 and 2 are defined mainly by pottery collected from inland sites, whereas the Harappan presence in Makran is limited to the coast.

The one exception—and an extremely important one—is Miri Qalat, near Turbat, where Besenval has discovered pottery, in sealed stratified contexts, with both Kulli and Harappan affinities. Miri Qalat is, according to Besenval and Sanlaville (1990:115), "the most important site of the Kech valley." The site comprises stratified remains ranging from the 4th millennium B.C. to the nineteenth century A.D. (Besenval and Marquis 1991). This is a major discovery, and it is hoped that large-scale excavations at Miri Qalat can be undertaken in the immediate future. No other evidence for Harappan occupation in the Kej Valley has ever been noted. Miri Qalat appears to be another truly frontier outpost, like Sutkagen Dor, but its specific function *vis-à-vis* the Harappan coastal sites remains to be determined. Besenval and Marquis (1991:9) state that "for a better understanding, Miri should be integrated in a network including the coastal sites of Sutkagen-Dor and Sotka-Koh."

In retrospect, the Makran coast survey of 1960—together with the discoveries in India at Lothal, and those of the Danes on Bahrain—sparked a period of renewed interest in the questions relating to South Asian-Near Eastern interactions in the third and second millennia B.C.; an interest that has increased dramatically over the years.

The paucity of specific trade items so far discovered at either end of the hypothesized international network has bothered me for decades. It is often tempting to explain this fact away by stating simply that the trade/exchange items were perishables or consumables that would leave no obvious archaeological traces. But there is another consideration that has been stated succinctly by Philip Kohl (1978:78; 1979): "scale should not be confused with significance or the possible effects of trade on the various participating societies." Small changes or innovations, or introductions of new raw materials at critical periods can be demonstrated historically to have generated major socioeconomic upheavals which are totally disproportionate to their scale. Also, numerous instances of the profound effect of importing exotic products for legitimizing ruling elites have been documented. But this is speculating. What is needed before speculations can be tested is the continuation, and amplification, of fieldwork in both the Indus and Gulf regions. A tremendously promising start has been made, and there is every reason to believe, with the increasingly sophisticated techniques available to archaeology, that many longstanding problems will soon be resolved, or at least they will be able to be addressed with abundant new data.

FOOTNOTES

1 Pottinger and Christie, like many of their successors, came from the Bombay infantry that according to one geographical historian "has ever been a sort of nursery for explorers of the best and most famous type" (Holdich 1910:329). He goes on to eulogize Pottinger and Christie (loc. cit.) as "worthy forerunners of Burton and Speke. The traditions of intelligence service may almost be said to have been founded by them." The rules of exploration in those days "admitted to no elaborate preparation" except for the requirement that one know the local languages that would be encountered. In addition the explorers had to be prepared to travel in disguise and appear as natives.

2 Gwadar was under the control of the Sultan of Muskat from the end of the eighteenth century until 1958 when it was turned over to the Government of Pakistan. With the opening of the Indo-European telegraph line in 1863, a British residency was established at Gwadar for a Political Assistant—first, Captain Ross and then Major Mockler, the discoverer of the site of Sutkagen Dor. The appointment of Political Assistant was abolished in 1879 when administrative responsibilities were turned over to local authorities (Baluchistan Gazetteer, 238).

3 His Navy sponsorship allowed him to travel in Makran in a less primitive manner than we had chosen. He was flown to Jiwani from Karachi, along with a jeep which he used for most of the survey.

4 The basic maps for Makran—and for all most of India and Pakistan—have their origin in the magnificent surveys conducted by the British operated Survey of India in the late nineteenth and early twentieth centuries. The 1870s and 1880s saw a number of Border Commissions at work delineating the official boundaries separating British India from Persia and Afghanistan. The methods used were quaint to say the least—no laser transits, aerial photographs or photogrammetry—just beautiful brass transits, magnetic compasses, plane-tables and phenomenal displays of stamina and courage. The speed and accuracy achieved is quite astonishing. One writer (Holdich 1909) describes how in the 1880s two Lieutenants—Talbot and Wahab—"drove a straight and connected triangulation right down from Quetta to the heart of Makran and filled up blank spaces in the map to the extent of 20,000 square miles in a few months" (p. 204). This triangulation, was gradually extended along another line, from the Indus Valley to the Persian frontier. "Where triangulation went, there in its wake followed the native surveyor with his plane-table, making maps in sheets and leaving no peak unvisited, no point of interest unrecorded. Thousands of square miles of geographical work was turned out each season—sometimes 50,000 or 60,000 in the course of the winter's explorations" (p. 208).

But those were not the first "modern" maps of Makran and Baluchistan. Lt. Henry Pottinger and Captains Christie and Grant, were the first team of military explorers to visit and map parts of Makran. The map that accompanies Pottinger's account of the venture (1816) is titled "A Map of Beloochistan & Sinde, With Parts of Kutch, Seistan, Khorasan, Persia, &c." by Henry Pottinger, Lieut. 7th Bombay Native Infantry. A.D. 1814. The scales are in Fursakhs or Fursangs as well as British Statute miles.

5 It is interesting, and somewhat disconcerting, to see this note on the post World War II Army maps: "The fathom lines have been taken from Admiralty Chart, No. 38 (Muscat to Karachi), dated 1874 with corrections to 1916." And this one of the world's most tectonically active regions!

6 The Makran coast is among the most tectonically active regions in the world. Between 1939 and 1975 more than thirty major earthquakes were recorded (Snead 1981). In gross terms, the coast consists of parallel mountain ranges of partially

indurated Tertiary mudstones and siltstones that are eroding at a fantastic rate (Snead 1967:560). It is a region of uplifted mountains and platforms separated by scalloped bays, wide sandy plains, salt marshes and lagoons. Several of the platforms represent fault blocks—for example, Ormara, Gwadar and Ras Malan, which have sheer cliffs jutting up as high as 1,000 feet (Snead 1981). The research by Snead, Woodward-Clyde and others have determined that the rate of tectonic uplift has far exceeded changes in eustatic sea level. The period of rise have been short and violent, associated with major tectonic activities. The most dramatic recent event was the earthquake of November 28, 1945 (Woodward-Clyde, Sondhi 1947, Pendse 1948, Snead 1967 and 1969). At Ormara, the coast was uplifted approximately 2 meters. Pre-1945 beach and marine features are now 1 to 3 meters above highest tide. At Pasni, local fishermen reported that a section of the coastline was elevated fifteen feet. In addition to the uplifting, these tectonic activities also activate mud volcanoes all along the Makran coast (see footnote 16).

7 Shallowness is characteristic of the Makran coastline and boats of any size must anchor anywhere from one to three miles from the beaches in water that even there are only three to five fathoms deep. An additional hazard for boatmen relates to the phenomenon of the mud volcanoes that periodically appear off the coast (see Footnote 16). The nautical chart published by the U.S. Navy Hydrological Office (No. 1588) includes the following, "CAUTION: Owing to the recent (1945) volcanic disturbances, vessels navigating along the Makran Coast... should keep outside the 20 fathom curve and if obliged to sail close to the land should do so with caution and sound continuously."

8 British officers were posted at Gwadar since the opening of the Indo-European telegraph line in 1863. They were charged with the control of political affairs on the coast. Because of the transfer of some administrative responsibilities to local officials in 1879, the appointment of the Political Assistant at Gwadar was abolished (Baluchistan Gazetteer: 238). The residence of the Political Officer was described as "something between a Swiss chalet and Crimean hut" that had "the charm of a baronial hall to the Wandering Englishman whom chance or duty led to its threshold, and its inner tidiness was redolent of hospitality." And thanks to the blessings bestowed on the region by the British presence, "an English lady was actually living there with her husband as quietly as she might have done in Calcutta or London" (Goldsmid 1874:132-33).

9 Cuyler Young wrote a description of the remains of each grave and recorded the following inscriptions:

Grave #1: In Memory of Sharon, Daughter of Darasha Hormusji S(?)ocina. Post Master. Died eighteenth April, 1898. Aged 11 months.

Grave #3: In Memory of U.S. Francis, Assistant Apothicary. Died 4th April, 1874. R.I.P.

Grave #4: Sacred To the Memory of Ann Theressa (?), The Beloved of W. J. Lowell (?). Died 18th (?) August, 1869.

10 The telegraph line along the Makran was part of the original Indo-European Telegraph line constructed by the British in the 1860s to provide an "electric link" between India and London (Goldsmid 1874; Baluchistan Gazetteer: 229-33). It was originally conceived of in economic and political terms, but with the horrors associated with the Mutiny in 1857 the want for such a line became "eminently national." The story of its construction is one of the great engineering sagas of the nineteenth century, described most thoroughly by Goldsmid. After years of theoretical planning, finally in June 1861 a survey of the Makran ports was made, in government steamer, by a Colonel Henry Green. A second survey was commissioned in December of the same year. Its leader, Goldsmid—with an escort of Sind horsemen—conducted a seven-week march from Karachi westwards to Gwadar (392 miles). The

purpose of the mission was basically to negotiate with local tribes and authorities for rights to construct and maintain the line. There was continued discussion as to whether the telegraph lines should be on the land or be submarine off the coast. For considerations of security, it was decided to construct both. The eastern terminal for both lines was Karachi.

A Mr. H. Isaac Walton directed the construction of the land line from Karachi to Gwadar, "under the protective arrangements made with local chiefs in 1861-62 by Major Goldsmid." Beginning in 1862, the task was completed by May 1863. Goldsmid (1874:373) notes that the construction of the line was "a matter involving mental anxiety and powers of organization, with physical labour and endurance of no common kind." Walton's report to Goldsmid was a letter from Gwadar dated April 5, 1863, parts of which were published in the Proceedings of the Royal Geographical Society, May 11, 1863, page 117, and parts in Goldsmid's book. Walton described the most difficult part of the task as getting the line up and around Ras Malan (an obstacle that we also found to be one of the most difficult during our survey). The massive promontory has sheer 1,000 foot high cliffs at seaside and inland rises to as high as 2,000 feet. Walton says "You can imagine the work it has been getting tons of iron posts and wire up the Malan." At the eastern end of the Ras he chose the Shum Valley to get up to the flat top of the promontory (1,620 feet elevation). From there he took the line to the back of the Khor Bat (Batt Kaur) Valley where he cut a road over which the materials could be carried up by manual labour. Each iron telegraph post weighed 200 pounds and each mile of wire at least 1200 pounds. The task from Malan westward to Gwadar—the Gedrosia of Alexander the Great—was beset with other difficulties. Walton continues: "The want of water in many places has driven us to endure great hardship. A body of 25 Europeans and 600 natives passing through this utterly barren country, must expect to meet with very great difficulties. Often I have been obliged to prohibit ablutions of any kind, and to place guards, with drawn swords, over dirty puddles... Both Europeans and natives have throughout behaved excellently... Of course, all had to be fed from Karachi; and the posts being all of iron, brought from England, were distributed 18 to the mile, and required many camels, which were likewise almost entirely supplied with provender from Karachi. We are all exhausted, and glad out labours are near an end, as the hot weather has again set in, and many deaths are occurring among the natives" (Goldsmid 1874:374).

The laying of the submarine cable is a story in itself. The initial surveys and installations were directed by Col. Patrick Stewart (originally of the Bengal Engineers) who, as a young Lieutenant had been a major figure in establishing telegraph lines within India. In 1863 he supervised the laying of the cable from Gwadar to Fao at the head of the Persian Gulf. One of the reasons for using marine rather than land lines west of Gwadar was because of the "vacillation and instability manifested by the authorities in Persia" (Goldsmid 1874:113). There was considerable experience to draw on in laying the marine cable. Stewart profited by the mistakes made by the Americans in laying the Atlantic cable, and by mistakes made in the British Red Sea cable. The Indo-European cable would have improved insulation, less current would be used, and sub-stations would be no further than 600 miles apart. The core of the cable consisted of 1/8th inch drawn copper wires coated with special newly developed insulating compounds. The core was then encased in 12 No. 7 gauge hard-drawn iron wires, thickly galvanized. All this was then coated with tarred hemp yarn, overlaid with a newly patented composition consisting of asphalt, Stockholm tar and powdered silica. The 900 nautical miles of cable was manufactured in England and transported to Bombay on four ships. The shipment was described as "huge coils of thick black-looking rope, nearly 1 1/4 inch in diameter, weighing nearly four tons to the mile (on land) and 2 1/2 tons in water... the cheapest, strongest, and electrically speaking, the most perfect cable that has ever yet been made" (Goldsmid 1874:124).

11 Major B. Lovett, on a military/political journey in Makran in 1871 (in Goldsmid 1876:122-23), offered this comment on camel drivers:

> It is only fair to warn future explorers against the Baluch camel-driver, who partakes largely of the nature of the ungainly beast he tends. These men, for obstinacy and perverseness, are unequalled. Amongst other annoyances they will never stir from a halting-place till long after sunrise, and any stage over 10 miles or any load over two hundredweight may be made a pretext for desertion or a general strike.

12 The Makran Levy Corps—or Militia—was organized in 1904 under two British officers, paid for by the British government, "to ensure a better patrol of the British side of the Makran border and the proper enforcement of the authority of the Khan (of Kalat) as represented by the "nazir" (a native "inspector" in the Anglo-India courts) of Makran" (Baluchistan Gazetteer, 262).

13 He described a structure made of baked bricks measuring 2 1/2 x 6 1/4 x 12 inches, "laid in a scientific manner" in a header-stretcher pattern (Mockler 1877:123).

14 The Asiatic Cheetah, "Acinonyz jubatus" used to be widely scattered throughout the drier regions of the subcontinent, but today it is extinct, at least in India. As stated in Roberts' *The Mammals of Pakistan* (1977:158), "the final senseless slaughter of this harmless creature in India" was carried out by the ruler of Korwai State who shot three of them in one night as they stood transfixed in the headlights of his car. Roberts says that "it is still probable that the Asiatic Cheetah enters Pakistan territory in the extreme south west of Baluchistan even if it is not permanently resident in that region." Unfortunately for this particular cheetah, it gave up its life to become a statistic. We all felt sad to be part of a process that might inadvertently encourage the killing of even one more such beauty of nature.

15 These so-called cairn burials are geographically widespread: in the region of our concern here, from Kerman in south-central Iran to the Indus. See Lamberg-Karlovsky and Humphries (1968), and Tosi (1976), for a review of the archaeological evidence. The problem of cultural identification and dating of the stone circles is made even more difficult by the fact that present-day Baluchis construct such features for both wedding and funerary purposes (Dales 1962a and b; Lamberg-Karlovsky and Humphries 1968:275). Besenval (1989; Besenval and Sanlaville 1990) in his preliminary report on the current Italian-French explorations in Makran, assigns these structures and the associated painted pottery to his third cultural period—the early historical Zangian Period (2nd century B.C. to the second-third centuries A.D.).

16 The Makran coast may be, according to Snead (1967:551) the location of the largest mud volcanoes found anywhere in the world. These expulsions of mud and gas (mostly methane and sulphur) develop along several of the weak anticlinal axes characteristic of the coast. "Only in an extremely tectonic area, where violent seismic activity is exerting pressures on the gas trapped below, could unheated liquid mud be lifted through a central vent 1,400 feet above sea level to form these mud cones" (Snead 1967:551). The Baluchistan Gazetteer (pp. 29-30) relates that "Gwadar had to be abandoned at one time owing to its unhealthiness, which was attributed to the action of mud volcanoes in the bay, the eruptions discoloring the waters and causing a stench which made life on shore absolutely intolerable."

The largest and most perfectly formed mud cone, called Chandragup, is located about midway between Ras Malan and Sonmiani Bay, about two miles from the sea coast. At the top of its 307 foot high cone is a crater about 20 feet in diameter (see photos in Snead 1964, figs. 2-4).

17 The most recent study of the dam has been by the French archaeologist R. Besenval (1989; Besenval and Sanlaville 1990) who disputes the Portuguese attribution and says that the stone-cutting masonry is typical of the Hellenistic tradition (2nd

century B.C. to the second-third centuries A.D.). In addition, he states that some technical details of construction are unknown in the Mediterranean Hellenistic world but are well attested in pre-Islamic South Arabian hydraulic buildings (for example the technique of bonding). This monument, he says, is "unique in Pakistan."

18 "Gabarbands" (stone-faced embankments constructed across drainage areas in arid regions) are widely distributed—from Africa to western India. They have been a subject of scholarly interest since at least the beginning of this century. Hughes-Buller, reporting on his archaeological survey in Baluchistan (1903-04), coined the double misnomer "Dams of the Zoroastrians." Functionally they are not dams in the sense of structures built for the impounding and later use of flood water, and they have been constructed from prehistoric times until the present (Raikes and Dyson 1961; Raikes 1965; Possehl 1975). They seem to have served a variety of purposes, all linked with agricultural technology, but the definitive study of them has yet to be made.

19 Barbara describes the typical dresses as follows: "The material is bright colored cotton usually with an overall flower design. The fullness of the dress comes from a wide frontal panel and a similar wide panel down the back. The sleeves are cut separately and sewn to these wide frontal and rear panels. A decorative piece is added to the upper front of the dress, with embroidery and sewn-on rick-rack. A huge pocket is sewn on to the front panel, extending from the waist to below the knees, stopping a few inches above the hem of the dress. This enormous pocket serves well the busy women of all ages who do not carry handbags as Westerners do. The pocket can contain a multitude of items. For one, many ladies carried in it a small, colorful hand-sewn purse. But more interestingly, I observed an elderly lady sitting on her charpoi (rope bed) and taking inventory of her accumulated wealth stored in such a pocket. She made some comment as she slowly extracted each item from the pocket. There was a small tin mirror, a string of beads, a folded photograph (hardly identifiable), several very small balls of thread, another folded piece of paper, a few coins, a couple irregular pieces of material, and a small decorated metal box which I believe contained snuff or something similar."

20 The Pasni sand dunes have a certain notoriety going back almost a century. The political officer/explorer C.M. MacGregor (1882:27) described "Pusni" as a miserable place—"only sand dunes." He continued, "Any of my readers can make a model of Pusni for himself next time he visits the seashore... On one side is the sea, . . .; then make a lot of sand-heaps of any shape, any size, in any position you like, and you have Pusni."

21 The Kalmattis, according to one tradition, were refugees from Bahrain in the Persian gulf in the tenth century. They appear to have acquired ascendancy over the dominant coastal tribe, the Meds. The Meds have not enjoyed a favorable reputation among Western visitors to the coast. Members of the tribe are known along the entire Makran coast and up to Las Bela. An inscription at Gwadar says the tribe came from Kachi (upper Sind) where the tomb of their patron saint, Sakhi Tangav, is to be seen at Dadhar. Traditionally they have been associated with piracy and brigandage. The American anthropologist, Henry Field, while giving an objective anthropological description of the modern population, borrows directly from the Baluchistan Gazetteer (p.105) classifying them as "inferior," possessing "many characteristics attributed by Arrian to the Ichthyophagoi" (Field 1959:64).

The Kalmattis have a tumultuous history in Makran having had many battles with, in addition to local tribes, the Portuguese. One such battle may have, according to the Baluchistan Gazetteer (p. 96), "led to the burning of the beautiful and rich city Pessani" by Luis de Almeyda in 1581. But it is difficult to imagine a city of such grandeur when you see the meager ruins in the area.

22 The literature dealing with Alexander the Great's expedition to India is prodigious. The part of the venture of specific relevance to this report is that of his Admiral Nearchus's return voyage along the Makran coast- the Land of the Ichthyophagoi. The most complete Classical reference is to the reconstruction of Nearchus's account by the 2nd century historian Arrian in his *Indike*. Translations are difficult to find but the relevant portions are given conveniently in the Baluchistan Gazetteer (pp. 277-8) and in Eggermont (1975).

23 Hindus, before the 1947 partition of Pakistan from India, made pilgrimages to Makran: to the Chandragup mud volcano, to the cave at Hinglaj and to Astola Island (called by them Satadip). The religious connection between the Hinglaj shrine and the island had to do with the goddess Kali Devi. One story has it that the island was her home but that once each day she went to Hinglaj to bathe (Baluchistan Gazetteer: 278; p. 279 gives additional stories).

24 These are most likely the hideous and poisonous Beaked Sea Snake ("Enhydrina schistosa") common in Makran coastal waters (Minton 1962: fig. 70; Minton and Minton 1969, "passim").

25 Recently a member of the Italian Ecological and Archaeological Mission in Makran, reported finding "prehistoric sites" in the Pasni dune area (in Besenval 1989; Besenval and Sanlaville 1990).

26 The first published mention of the site, although it was not then recognized as being archaeological, is by the British military explorer C. M. MacGregor who traveled up the Shadi Kaur Valley north from Pasni in 1877. He mentions camping 10 miles north of Pasni at Laz Bent, "situated just under the Talo hill, and a curious off-shoot of it called Koh-i-Sukhta" (MacGregor 1882:29).

27 The geographer Snead, in his study of recent morphological changes along the Makran coast concluded "It is hard to believe that so many changes have taken place over such a large area in such a short period of time, generally during the last 3,000 to 5,000 years. It may very well be that George Dales is correct about the 3,000 [sic]-year old Harappan coastal ports now found twenty to thirty miles inland. It appears that the changes that took place were more rapid than originally supposed, and the sequence of events may be on the order of hundreds of years, rather than thousands of years" (Snead 1967:565).

28 Followers of the unorthodox Muslim sect called Zikri are today found mostly in Makran. Their name is said to derive from the set of formulas they repeat in place of the orthodox Muslim prayers. They call themselves Muslims but their creed is full of "superstitious and idolatrous beliefs (Baluchistan Gazetteer: 116). They follow a strict and laborious practice of daily prayers, but on Friday and special days a "Kishti" is held for which stone circles are made, in and around which dancing and singing—involving women—are performed (Baluchistan Gazetteer: 119-20). For the history of the sect see the Baluchistan Gazetteer (120-21) and Field (1959:57-62).

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Photo by Cuyler Young

George and Barbara Dales off the Makran coast in 1960

Cover photo: Travelling by camel from Gwadar to Sutkagen Dor by George Dales

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